NATIONAL ACADEMY OF SCIENCES REPORT ON INTERNATIONAL TECHNOLOGY TRANSFER

HEARING

BEFORE THE

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY U.S. HOUSE OF REPRESENTATIVES

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NATIONAL ACADEMY OF SCIENCES REPORT ON INTERNATIONAL TECHNOLOGY TRANSFER

WEDNESDAY, FEBRUARY 4, 1987

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
Washington, DC.

The committee met, pursuant to call, at 10 a.m., in room 2318, Rayburn House Office Building, Hon. Robert A. Roe (chairman of the committee), presiding.

Mr. ROE. The hearing will come to order. Good morning, ladies and gentlemen.

This morning's hearing by the Committee on Science, Space, and Technology will be devoted to a review of the National Academy of Sciences Panel Report on the Impact of National Security Controls on International Technology Transfer.

Our review today is an integral part of this committee's continuing interest and concern about a broad spectrum of technology policy issues. These encompass the territory from research and innovation to the environment for commercial application and eventual dissemination.

The export controls issue is complex, as we all know. It is not only concerned with protecting national security but also with stimulating economic vigor and technological advance. This important report has already generated wide interest and intense activity and will likely lead to additional hearings at a future date in this and other committees.

The National Academies, which convene various distinguished study panels, include the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and their operating arm, the National Research Council. Collectively, these institutions represent a strong, independent, scientific, and technical policy advisory group for the Federal Government.

We are pleased to welcome today Dr. Frank Press, president of the National Academy of Sciences, and Dr. Robert White, president of the National Academy of Engineering. Dr. Press will provide introductory remarks on the panel's findings.

Dr. Lew Allen, the distinguished chairman of this particular National Academy panel and also director of the Jet Propulsion Laboratory, will summarize the study's findings for us and other observations, along with his fellow panel members, and respond to our questions.

Dr. Richard Perle, Assistant Secretary of Defense for International Security Policy, will then be asked to offer a statement and respond to questioning.

Before we begin, ladies and gentlemen, what we will do is defer at this moment to my good friend and ranking minority leader, the Honorable Manuel Lujan from New Mexico.

[The opening statement of Mr. Lujan follows:]

OPENING STATEMENT OF HON. MANUEL LUJAN, JR.

Mr. Chairman, members of the Committee on Science, Space, and Technology. My comments will be brief for the sake of time, however, I do want to welcome the National Academy of Sciences' panel on the impact of National Security Controls on International Technology Transfer chaired by Lew Allen, who is the current Director of the Jet Propulsion Laboratory.

The committee is aware that the report which is under review in today's hearing was, in fact, leaked to the public and therefore was not in the final form that perhaps the Academy had intended. It would be helpful for the panel to point out where changes would have been made, had an unauthorized copy not left the Academy.

The committee's interest is, of course, in the vitality of a competitive R&D enterprise. We have in the past been quite active in reforms to current law dealing with domestic technology transfer, Federal patent policy, and anti-trust legislation that impeded productive research. However, we do not want to walk blindly into initiatives that impede our national security. Likewise, a balance of both interests is essential. We are here to learn and have clarified facts about export controls, what is necessary and what is excessive.

This hearing will be the first of several initiatives by the committee to have a comprehensive view of international competitiveness.

Mr. LUJAN. Thank you very much, Mr. Chairman.

I don't have a prepared opening statement, I just want to welcome our panel and look forward to all the experts that we have before us on the subject and look forward to the testimony. I do believe that some of the others would have some statements.

Mr. ROE. Are there other Members who want to have an opening comment?

The gentlelady.

Miss SCHNEIDER. Yes, Mr. Chairman. Thank you.

I want to commend the panel for their preparation of this report. I think it's outstanding, and I think it's terrific that we have almost a standing room only attendance here today. I think it points to the fact that this study does point up some national security concerns.

I do think, however, that it's very unfortunate that our desire to deny technology to our adversaries has resulted in us denying a market to our friends and the opportunity to our own industries in the United States.

Over the last two years, or two years ago, the President's Commission on Industrial Competitiveness, which was headed up by John Young, had recommended that we revise our export control policies, and at that time they singled out the need for streamlining the licensing process and automated analysis and also to take these measures so that we could have a timely response for technology exports.

I think the depth of your panel's findings provides us with that amplification of the kinds of things that we need to do. My only regret is that over the last two years we really haven't made any apparent progress in rationalizing our export control policies.

I will share with the panelists that yesterday I met with leaders of the semiconductor industry, and it was very high on their list, the issues that prevent them from effectively competing in the world market, is our export control policy, and there is no question in my own mind that these men are very mindful of our national security needs but yet they're also very mindful of the fact that we delude ourselves by thinking that the only thing that stands between our success and our failure as a nation is our technical military advantage. We are much more likely to find ourselves at a disadvantage because we have failed to develop and maintain a policy that allows us to promote our technology in a predictable and a reliable fashion.

There are some real genuine security reasons to keep our most sensitive technology and the production capacity for that technology at home, but security concerns, I believe, have to be balanced with common sense and an awareness of the realities of the world, not to mention what our allies are doing.

I will also mention that for the last three years I've been working very closely in examining the different barriers that prevent us from developing our Nation's full economic potential, and the reform of our export policies is a recurring theme in many of the analyses of our lack of competitiveness in the world marketplace.

So that the report that you have prepared will serve as a guideline for the new caucus that I co-chair with my colleague, Mr. MacKay from the State of Florida, called the Competitiveness Caucus, and we intend to take this study, among others, and to use it as a guideline.

I will also share with you that I have recommended your study to the Republican Leadership Task Force on Trade and Competitiveness, and so that I hope a year from now we will be in a situation where we can say that your report has been implemented and that it has brought about the kinds of changes that you have suggested, and that they are finally in place, and fortunately our competitive edge has been to some degree at least renewed as a result of your efforts and ours.

Thank you, Mr. Chairman.

Mr. ROE. I thank the gentlelady from Rhode Island.

The Chair recognizes the gentleman from New York, Mr. Boehlert.

Mr. BOEHLERT. Thank you, Mr. Chairman.

I want to join in welcoming our distinguished witnesses this morning to discuss the crucial issue of export controls. I've become all too familiar with this matter while serving as vice chairman of the North Atlantic Assembly Subcommittee on Advanced Technology and Technology Transfer. At every meeting I attend, NATO parliamentarians have impressed upon me the need to review our unilateral restrictions and re-export controls.

The idea behind current policy seems to be to control just about everything in the hopes of preventing transfer of items that could improve Soviet technology. The whole scheme reminds me of an old Burns and Allen routine in which Gracie is talking about her gun-toting uncle, Wyatt Allen. George says, "I guess the outlaws must have been pretty frightened of your uncle," and Gracie responds,

"That's right, George. When Uncle Wyatt started shooting, they were no safer than anybody else."

That's the same scatter-shot approach we have to export controls, and we are inadvertently shooting our businesses and our allies in the process. We still seem to be obsessed with Lenin's empty boast about capitalists selling him the rope with which we will be hanged. But the Allen report rightfully notes that the Soviets can buy the rope almost anywhere, and it doesn't matter so long as they don't know how to tie the knots. Meanwhile, we have kept the rope at home and are hanging ourselves.

I am pleased that the Administration has been very responsive to the National Research Council's report, and I look forward to its earliest practical implementation. We must make any necessary economic sacrifices to prevent technological advances on the part of the Soviets, but we must make only those sacrifices that are necessary.

Thank you, Mr. Chairman.

Mr. ROE. I thank the gentleman from New York.

Are there any other statements any Member would like to make?

The Chair would like to, without objection—television broadcast, radio broadcast, still photography, or other means of coverage will be permitted during the full committee hearing today, without objection.

The Chair wishes to welcome our distinguished—very distinguished panel on this extremely important matter that in large measure, in my judgment, is going to be a critical factor to how we develop our trade policies, which is high on the agenda for the 100th Congress, as you know.

Without further ado, I would now recognize Dr. Press, president, National Academy of Sciences.

Dr. Press, may I suggest something. You have, I assume, some associates with you, which you might want to introduce for the record, and Dr. Allen, the same with your staff.

So Dr. Press is recognized.

STATEMENT OF DR. FRANK PRESS, PRESIDENT, NATIONAL ACADEMY OF SCIENCES, WASHINGTON, DC, ACCOMPANIED BY DR. ROBERT M. WHITE, PRESIDENT, NATIONAL ACADEMY OF ENGINEERING, WASHINGTON, DC

Dr. PRESS. Thank you, Mr. Chairman.

We will, as we go along, introduce our colleagues.

Mr. ROE. I'd appreciate that for the record.

Dr. PRESS. I will be very brief in order that our committee have as much time with you as possible. Many of the remarks that I wanted to make were already made by you and your colleagues, so I will indeed be brief.

The issue of technology transfer and national security, the tension between those two important topics, is one of the most difficult policy issues that Congress and the executive branch faces. It certainly affects our national security, our leadership in science and technology, the competitiveness of American industry, and the relationships we have with our trading partners in the West.

We have been concerned with these issues—our organization—for many years. You may recall that in 1982 we did a study dealing with scientific communication and restrictions on communication imposed by national security requirements. That was the so-called Corson Report. We were pleased at that time that the administration—the President specifically commended that report to his Cabinet officers as he launched an inter-agency study of that important matter of scientific communication and any potential limitations on that.

I suppose this committee is primarily interested in American scientific and technological leadership and all of its ramifications, although you did mention trade and the political aspects.

We have to keep in mind in a general way that we are not necessarily the leaders in the world any more in all scientific fields and by building high walls and trying to protect our position we may actually damage any potential we have for assuming or maintaining leadership positions; that's a very important factor; and also we want to recognize that the most powerful tool we have in maintaining our leadership is our ability to stay ahead, and anything we do that prevents us, in terms of allocation of resources and all sorts of restrictions, from staying ahead can damage our position as a world scientific and technological leader.

The present study deals with, as I said, the balance between economic competitiveness by trade and the question of maintaining our security. This issue was brought to our attention in 1984 by scientists, engineers, entrepreneurs, businessmen, former Government officials in 1984, all of whom were concerned with some of the things that you've already heard from members of your committee, concerned about our ability to trade competitively for many reasons—the quality of our exports and also the restrictions placed upon our ability to export—and we put together a very major panel, and I would like for Robert White, the president of the National Academy of Engineering, to tell you how we put that panel together—I think it's a very important part of this story—and to tell you how we do these kinds of studies at the National Research Council. We will both be very brief, and I'll turn to Dr. White.

Mr. ROE. Dr. White.

Would you all remember to please keep those microphones close to you, because for some reason the acoustics are not that good in this room.

Dr. WHITE. Mr. Chairman and members of the committee, when the National Research Council and the Academies put together a committee to study any topic, it seeks two things: It seeks to make sure that the members of the committee have views which collectively are balanced on a particular issue, and, secondly, we try to ensure that the members of the committee are knowledgeable about the issues that are to be considered.

If you look at the constitution of the committee which carried out this study, you will find it is composed of a significant number of individuals who have had prominent positions in the Defense Department and have great experience on national security issues. It includes members who come from both large and small corporations deeply concerned about the technology transfer issue. It has been composed also of people who have views which emanate from

the non-Defense Department agencies of the Federal Government. It includes individuals who come from the university community where much of our technological development does take place. It includes economists, because one of the important aspects of this problem is, what is the economic impact of these controls; and, lastly, members of the legal profession.

I think you will find this to be a very well balanced committee, representing all points of view, which has come out with a consistent, single, unanimous view on what needs to be done.

Thank you, sir.

Mr. ROE. I thank you.

Now we'll defer to the representatives of the National Academy of Sciences panel, Dr. Lew Allen, director of Jet Propulsion Laboratory.

STATEMENT OF DR. LEW ALLEN, JR., PANEL CHAIRMAN AND DIRECTOR, JET PROPULSION LABORATORY, PASADENA, CA, ACCOMPANIED BY THOMAS A. CHRISTIANSEN, PANEL MEMBER AND MANAGER, INTERNATIONAL TRADE RELATIONS, HEWLETT-PACKARD CO.; LEIF H. OLSEN, PANEL MEMBER AND CHAIRMAN, LEIF H. OLSEN ASSOCIATES, FORMER CHIEF ECONOMIST, CITIBANK, INC.; RUTH L. GREENSTEIN, PANEL MEMBER AND VICE PRESIDENT AND TREASURER, GENEX CORP.; AND DR. MITCHEL B. WALLERSTEIN, PROJECT DIRECTOR AND ASSOCIATE EXECUTIVE DIRECTOR, OFFICE OF INTERNATIONAL AFFAIRS, NATIONAL RESEARCH COUNCIL

Dr. ALLEN. Thank you, Mr. Chairman. I'm very pleased to be here to discuss the report of this panel which has addressed national security controls and the effect on international technology transfer.

I would like to submit for the record, sir, the executive summary of our report which we have provided.

Mr. ROE. If there's no objection, so ordered; we will make it a part of the record at this point in the hearing.

[The Executive Summary follows:]

Executive Summary

ABSTRACT

In this study the panel was charged to examine the current system of U.S. and multilateral national security export controls and to seek strategies to regulate international technology transfer in such a manner as to achieve a desirable balance among the national objectives of military security, economic vitality, and scientific and technological advance. Three general principles underlie this analysis—namely, that it should be the policy of the United States (1) to promote the economic vitality of Free World countries, (2) to maintain and invigorate the domestic technological base, and (3) to cooperate with its allies to impede the Soviet Union and other Warsaw Pact countries in their efforts to acquire Western technology that can be used directly or indirectly to enhance their military capability.

The panel finds that national security export controls, when developed and implemented on a multilateral basis, are an appropriate policy response to two facts. One is that dual use technology—that is, technology that has both commercial and military applications—has become increasingly important to Western military security. The other is that the Soviet Union and its Warsaw Pact allies continue to pursue aggressive technology acquisition in the West. The panel further finds that efforts by the United States since the late 1970s to enhance the effectiveness of national security export controls were necessary in view of both intelligence on the nature and extent of Warsaw Pact

technology acquisitions and the continued diffusion of technological capability outside the United States. Nevertheless, the panel believes that U.S. control policies and procedures are in danger now of overcorrecting in that they fail to promote both military security and economic vitality, two objectives set forth in the statutes authorizing national security export controls. The panel also finds that, although appropriate statutory authority appears to exist, the U.S. policy process for national security export controls lacks proper direction and affirmative leadership at the highest level of government. The result is a complex and confusing control system that unnecessarily impedes U.S. high-technology exports to other countries of the Free World and directly affects relations with the CoCom allies.

Accordingly, the panel recommends that the United States exercise stronger leadership in building a multilateral community of common controls for dual use technologies among cooperating countries, which will involve further strengthening of the CoCom mechanism, eliminating certain controls on trade among CoCom countries, and developing effective control arrangements with other technologically advanced nations. In the domestic context the panel recommends that executive branch policy decisions on national security export controls accord greater importance than they currently do to maintaining U.S. technological strength and the economic vigor and unity of the Western alliance.

INTRODUCTION

The vigor of science and technology in the Western* democracies and the greater economic vitality of these nations in comparison to the Soviet bloc are sources of strength for the West in its continuing effort to maintain its military security. The Soviet Union lacks these advantages; it seeks to compensate for them by directing a substantial portion of its gross national product to the development and production of military equipment and by making aggressive attempts to acquire and apply Western technology to its military programs. Although the prime targets of the Soviet acquisition program are military hardware and technology related directly to military systems, dual use products and technology† available for sale in international markets also constitute major targets. The importance of dual use technology to Western economic vitality poses a policy dilemma for the West in turn: The open communication

* As used throughout this report, *Western* or *West* includes Japan.

†Items that have both commercial and military applications (e.g., microelectronic components or computers of certain performance parameters).

and free markets that are fundamental to the Western advantage in technology also facilitate the Soviet acquisition effort. Given what is known about the scope and extent of these Soviet activities, the West must pursue a dual strategy of continuing to maintain its technological leadership over potential adversaries while also denying—or at least impeding—their access to militarily significant Western technology.

This study had a twofold objective: (1) to examine the current system of laws, regulations, international agreements, and organizations—defined collectively as the national security export control regime*—that control the international transfer of technology through industrial channels; and (2) where appropriate, to recommend new approaches to achieve the interrelated national policy objectives of military security, scientific and technological advance, and economic vitality.

To achieve this objective the panel and its professional staff undertook a broad agenda of research and briefings.

- Pertinent public literature was analyzed as well as restricted documents from the various federal agencies involved in export control policy formulation—e.g., the Departments of Defense, Commerce, State, Treasury (U.S. Customs Service), and Justice.
- Representatives of these agencies briefed the panel, as did the Intelligence Community in classified session.
- The panel also heard the views of industry (including a broad range of sectors and firm sizes) and held a series of discussions with individuals well-versed in aspects of the national security export control regime.
- Delegations of the panel traveled to six European countries (Austria, Belgium, France, Great Britain, Sweden, and West Germany) and five Asian countries (Japan, Hong Kong, Malaysia, Singapore, and South Korea) for frank and confidential meetings with government officials, industry leaders, and other informed observers on export control matters.
- The panel commissioned a series of research reports, prepared both by outside consultants and by the panel's professional staff. Some of these studies developed and analyzed new primary data, others reexamined existing problems from new perspectives.

From these efforts has come a set of general principles and specific prescriptions for developing a more balanced and effective national

*The panel was not charged to consider other applications of export controls including foreign policy and short supply constraints. Thus, although foreign policy controls may occasionally become intertwined or confused with national security controls, they are examined here only to the extent that they impinge on the effective functioning of the national security export control regime.

security export control regime. The panel's findings and recommendations are set forth in the concluding sections of this summary. The three general principles that underlie the panel's analysis propose that *it should be the policy of the United States*

- to promote the economic vitality of Free World countries,
- to maintain and invigorate the domestic technological base, and
- to cooperate with its allies to impede the Soviet Union and other Warsaw Pact countries in their efforts to acquire Western technology that can be used directly or indirectly to enhance their military capability.

As a general policy, the United States should strive to achieve clarity, simplicity, and consistency in its national security export control procedures, as well as in the multilateral CoCom* export control structure, and broader consensus on the need for national security export controls among the Free World nations that use and produce dual use technology. To achieve these ends the United States should develop policies and procedures that emphasize efficiency and effectiveness rather than total comprehensiveness.

THE TECHNOLOGY TRANSFER PROBLEM

Intelligence information reviewed by the panel—including some at high levels of classification—indicates that the Soviet technology acquisition effort is massive, well financed, and frequently effective. Militarily significant Western technology has flowed to Warsaw Pact countries in recent years through three primary channels:

- *espionage*—the theft of classified information or items of relevance to military systems;
- *diversion*—shipment of militarily significant dual use products and technology to unapproved end users, either directly through the export of controlled products without a license (i.e., smuggling), or indirectly through transshipment using a complex chain of increasingly untraceable reexports (i.e., legal transshipment of products or components by firms operating in countries that do not impose controls); and
- *legal sales*—direct trade with the Soviet bloc, usually after receipt of a license. Such trade also may include some reexports.

As in other areas of intelligence, data on Soviet acquisition of militarily sensitive technology are incomplete and fragmentary and often become

*CoCom, or the Coordinating Committee on Multilateral Export Controls, is an informal, nontreaty organization composed of Japan and all the member nations of the North Atlantic Treaty Organization (NATO) except Iceland.

available relatively late in the development of national security export control policy. Nevertheless, available evidence—including the so-called "Farewell" papers, which are actual Soviet documents obtained by French intelligence services in 1981 detailing the plans, organization, and financing for technology acquisition efforts in the West—indicates that, by the Soviets' own estimates, approximately 70 percent of the items they target and eventually acquire in the West are subject to some form of national security export control. There is also growing concern in the Intelligence Community about the extent to which the Soviet Union and other Warsaw Pact countries have been or may be able to obtain controlled technology in Free World countries that do not cooperate in national security export controls. This concern applies both to the industrialized neutral countries of Europe and to some of the more advanced newly industrializing countries (such as India, Singapore, and Brazil).

It is only on rare occasions—for instance, when isolated examples of specific Western components, or copies of them, appear in Soviet military equipment—that the Intelligence Community can declare without reservation that the application of Western technology has contributed substantially to Soviet military developments. As a result, assessing the impacts of technology acquired by the Soviets is subject to considerable uncertainty. In general, it appears that the loss of a few items does not raise significant risks. Although the Soviets may attempt to reverse-engineer a technology (i.e., use an item obtained in the West as a basis for producing the technology themselves for their military systems), the panel has come to believe that this process is generally unproductive for many types of items (for example, high-density semiconductor devices).

Nevertheless, certain key items of process control or manufacturing hardware (known as keystone equipment) *can* provide the Soviets with substantial leverage—even if only a few are obtained—because these items facilitate the production of quantities of other hardware. Consequently, a prevalent judgment in the United States is that the emphasis of national security export control policy properly should be on constraining the flow of manufacturing equipment (specifically, some types of turnkey plants and know-how related to that equipment) rather than on the end products of the manufacturing process.

Although there are some cases in which different conclusions can be drawn, on the basis of available information the panel has determined that for most types of dual use technology the Soviet Union is approximately 5 to 10 years behind the West and does not appear to be closing the gap. The situation is different for military technology. Although the West remains generally ahead in the most advanced systems, the Soviets' great emphasis (relative to that of the United States) on the development and

production of military hardware results in fielded equipment that in specific cases is as modern as that deployed in the West. However, as indicated in the 1986 Packard commission report *A Quest for Excellence: Final Report to the President*, it is important to understand that this fact may reflect delays in the U.S. procurement process rather than a failure of export controls.

Despite years of effort, then, the Soviets continue to lag the West technologically, and this gap may actually be widening due to Soviet dependence on generally outdated Western equipment and technology (particularly in the field of computer science). Although it would be foolhardy for the United States or other CoCom nations to facilitate Soviet access to militarily critical technology, the panel considers it unlikely that an influx of Western technology will enable the Soviet bloc to reduce the current gap substantially—as long as the West continues its own rapid pace of innovation.

There are other facets of the technology transfer problem that also warrant attention. Intelligence evidence on the extent of unwanted West-East technology transfer must be juxtaposed against the fact that the United States is now confronted with a dramatically altered economic and technological environment—an environment substantially different from that existing for most of the post-World War II period. The panel reviewed in this regard the implications of the following five major developments.

1. *The character of the international marketplace is evolving in such a way that diffusion of technology is rapid and global in scope.* Factors promoting this diffusion include the tendency among multinational corporations to locate research, development, and production facilities around the world and the existence of indigenous capability in many developing countries. Massive amounts of information must be transferred by such companies as they attempt to control and coordinate their international efforts.

2. *There is a growing global market for dual use products, most of which embody advanced technology.* The high-technology sector demands heavy investment in research and development. The rapid technological advances promoted by this investment are tending to push commercial development of technology ahead of military development—a reversal of the pattern established after World War II. Acceleration of commercial development, coupled with a lengthening of the U.S. military procurement cycle, has resulted in the increased availability of dual use products embodying technology more sophisticated than that deployed by the military.

3. *Because trade is a steadily growing part of U.S. economic activity,*

policies that affect it are increasingly important to the overall U.S. economy. The United States is the single largest international trader, reporting exports of $360 billion in 1985. U.S. exports to CoCom countries represented over 60 percent of that total in 1985; in contrast, exports to Soviet bloc countries represented less than 1 percent of U.S. exports for that year. Trade policies that might diminish West-West trade thus have greater potential to damage the U.S. economy than do those that might reduce exports to the Eastern bloc. Although export controls are not a leading cause of the recent decline in U.S. high-technology performance, they may contribute to lost sales and to an environment that discourages export activities by U.S. firms.

4. *U.S. dominance over advanced technology is declining*. The United States now faces stiff competition in almost every high-technology sector from companies in both developed and developing countries with non-U.S.-source technology. The growing technical sophistication of such countries is the result of long-term efforts to develop and enhance indigenous technical capability. (In a growing number of cases, the commitment of resources by such countries now surpasses that for similar efforts made by the United States.) The newly industrializing countries currently do not possess sufficient indigenous high-technology capability to compete at the cutting edge of most industries, but many are beginning to make great strides toward this goal and are already effective competitors at somewhat lower but still technologically sophisticated levels. Thus, the United States cannot succeed in its efforts to block Soviet acquisition of militarily sensitive Western technology unless it has the full cooperation of the (increasing number of) other technologically advanced countries that may represent alternative sources of supply.

5. *Maintaining the vitality of all the Western economies has assumed greater importance for the national security of the United States*. To the extent that technological and economic leadership is now shared with the other principal CoCom countries—namely, Japan, the United Kingdom, France, and the Federal Republic of Germany—it is essential to the national security interests of the United States, for both military and trade reasons, that the economies of these countries remain strong.

THE CURRENT NATIONAL SECURITY EXPORT CONTROL REGIME

The national security export control authority exercised by the executive branch is substantially unchanged in its basic legal structure from that originally granted by Congress in 1940 as an extraordinary war power. Two laws provide the primary statutory mandate. The Arms Export Control Act of 1976 requires government approval for the import and

export of military weaponry and services. The Department of State implements the act through the International Traffic in Arms Regulations (ITAR); ITAR is based on the U.S. Munitions List, which is maintained by the Department of Defense (DoD). The Export Administration Act (EAA) of 1979, as amended, controls dual use goods and technologies that could make a significant contribution to the military capabilities of a potential adversary. EAA, which is implemented by the Department of Commerce through the Export Administration Regulations (EAR), also authorizes controls that may be necessary to serve U.S. foreign policy goals and to ensure the domestic availability of resources in short supply.

The regulations implementing the national security export control regime are extensive and complex. Many federal departments and agencies share administrative responsibility for their implementation and participate in the export control policymaking process. The roles of the executive branch agencies are assigned variously by legislation, by regulation, or by executive order. In general, the Commerce Department regulates exports of commercial equipment and technology, while the State Department controls exports of military equipment and technology. DoD advises both agencies on the strategic significance of commercial and military exports. The Department of Commerce and the U.S. Customs Service share responsibility for enforcement of national security export controls.

Multilateral agreements and procedures play an essential role in denying militarily useful technology to potential adversaries. In fact, the heart of the national security export control regime is a set of restrictions on exports to the Soviet bloc, which is maintained on a multilateral basis through the Coordinating Committee on Multilateral Export Controls (CoCom), of which the United States is a founding member. CoCom administers three lists of controlled items: munitions, nuclear energy, and dual use. Many but not all the items on the U.S. Control List parallel items found on the CoCom dual use list (known as the International List). The United States also has bilateral agreements or arrangements with a number of non-CoCom countries that provide for varying degrees of cooperation on national security export controls.

ASSESSMENT OF THE CRITICAL ISSUES

National security export control policy should be the result of a process that weighs the benefits of controls in relations with potential adversaries against their costs in terms of the domestic economy and relations with allies and friendly trading partners. The potential benefits of controls derive from two factors: (1) they make it more difficult for the Soviet Union and its allies to upgrade their military systems through information.

technology, and products acquired in the West; and (2) they require the Soviet Union to commit substantial domestic resources to military research and development instead of using acquired Western technology to shortcut the technological development process.

Both the costs and benefits of controls are difficult to assess with precision. There is evidence that controls do slow Soviet acquisition efforts and increase the price of the items they acquire, a conclusion supported at the unclassified level by the Farewell papers (see p. 5), which indicate that during the Tenth Five-Year Plan (1976-1980) the Soviet acquisition program satisfied more than 3,500 specific collection requirements for hardware and documents for the 12 Soviet industrial ministries. The documents also indicate that for 1980 alone the Soviet Union allocated (in rubles) substantially more than $1 billion for the collection of Western documents, blueprints, test equipment, and other hardware.

There are also data that suggest that most of the benefits of controls are concentrated in a relatively narrow range of products and technologies. This range includes advanced equipment for manufacturing high-density semiconductors, automated process equipment for the fabrication of specialized metals and composites, very-high-speed computers, extremely precise test instruments, and aircraft components that can be readily adapted to military uses.

The potential costs of controls also are hard to measure because they derive from the web of competitive and cooperative relationships among Western countries. Nevertheless, the panel did consider it important to attempt an estimate of those costs to the U.S. economy that are associated mainly with current features peculiar to the U.S. national security export control system. Of principal concern are the present and future sales and market share (both West-West and West-East) and reduced investment in research and development that U.S. producers of goods and technologies may lose or forego—without the compensating national security benefits of denying the Soviets embargoed technology—as a result of how the U.S. control system is designed and administered and of how it compares with the control systems of other countries with competitive suppliers. For example, reduced revenue from lost sales and market share may translate into less investment, a lower growth rate, and reduced innovation, with resulting adverse effects on both the commercial and military sectors. In addition, technology controls also have created friction among the Western allies—friction that may interfere with their successful collaboration on weapons development, production, and standardization, or on other matters bearing directly on East-West relations.

In contrast to their benefits the costs of export controls are spread across an enormous volume of transactions representing a large share of

U.S. trade. Based in part on data provided by the Commerce Department, the panel estimates that 40 percent—approximately $62 billion—of all U.S. exports of nonmilitary manufactured goods in 1985 were shipped under a license requiring prior approval. In addition, U.S. controls extend to sales by U.S. foreign subsidiaries and independent foreign companies using products, components, parts, services, and technology of U.S. origin.

In an effort to assess the operation and some of the effects of export controls, the panel analyzed a sample of licenses* for goods classified by level of military sensitivity using administrative criteria developed in U.S. government deliberations and/or CoCom negotiations. The analysis showed that the broad control net is heavily weighted with transactions involving items of less than critical military importance with customers in friendly Western countries. Ninety percent of individual license applications are for exports to Free World countries. One-third of these applications are for items that may be exported to CoCom countries under a general license and even to Soviet bloc destinations without prior CoCom approval. Roughly two-thirds of license applications are for items sufficiently lacking in military importance that they may be shipped to the People's Republic of China (PRC) without prior CoCom approval. Only about 13 percent of the applications are for very sensitive items that require an individual U.S. license to all countries (i.e., they are not eligible for export under a bulk license) as well as CoCom approval for shipment to the bloc or the PRC.

The sheer volume of transactions subject to government review and approval sharply limits the ability of licensing officers to focus on more critical items. Data obtained from the Commerce Department indicate that individual license applications for exports to the Warsaw Pact and to Western countries that exercise little control—and are therefore potential points of diversion—appropriately receive more scrutiny than those for exports to CoCom destinations. But the current control regime does not apply similar discrimination to sales within the West of products having greater and lesser military significance.

The adverse competitive effects of export controls could be alleviated by the establishment of a community of common controls in dual use technology (i.e., a set of trade relationships unimpeded by national

*The panel requested and was granted a "national interest exception" under Section 12(c) of the Export Administration Act permitting its consultants unprecedented access to Commerce Department license files and data bases, subject to strict observance of confidentiality of business information. The subsequent analysis conducted by consultants was of a sample of 1,618 processed license applications categorized by Commerce Department license officers.

security restrictions) among cooperating Free World countries. Such an arrangement does not now exist. U.S. national security export controls encompass more products and technologies, are generally more restrictive, and entail more administrative delays and shipper uncertainties than those of the other major CoCom countries. Only the United States requires foreign resellers, even in countries that are our closest allies, to obtain the prior approval of—or to account periodically to—the U.S. government for reexports of U.S.-origin products, U.S.-origin parts and components incorporated into foreign equipment, and foreign products manufactured with U.S.-origin technology. These controls appear even more restrictive in light of the fact that many controlled products are available from or through non-CoCom countries with few or no restrictions.

There is both anecdotal and statistical evidence that the relative stringency of U.S. controls is, with increasing frequency, causing Free World customers to turn to non-U.S. suppliers or to begin to explore alternative sources including internal development. Respondents to a panel survey of U.S. companies,* reflecting on their experience during the 12 months prior to May 1986, perceived the control system as frequently having significant adverse effects on their business:

- 52 percent reported lost sales primarily as a consequence of export controls;
- 26 percent had business deals turned down (in more than 212 separate instances) by Free World customers because of controls;
- 38 percent had existing customers actually express a preference to shift to non-U.S. sources of supply to avoid entanglement in U.S. controls; and
- more than half expected the number of such occurrences to increase over the next 2 years.

In addition, the panel has documented that U.S. exporters already have lost business to suppliers in other technologically advanced nations because of unilateral controls on analytic instrument exports and on independent foreign distributors and equipment manufacturers operating under U.S. distribution licenses. In the first instance, the short-run loss attributable to export controls is about 10 percent of the value of U.S. exports; in the second instance, the loss to date is smaller. But over time, as the relative restrictiveness of U.S. controls becomes more consequen-

*The sample of companies surveyed was oriented toward firms in the electronics (equipment and components), aircraft (airframes, engines, and parts), instrumentation, and machine tool sectors. The 170 respondents accounted for roughly $36 billion of foreign sales in 1985 or approximately 28 percent of estimated total U.S. high-technology sales.

tial to existing and potential foreign customers, the greater the weight such restrictiveness is likely to be given in customers' choices among suppliers. (This process has been referred to by some as "de-Americanization.")

These losses are occurring at a time when U.S. producers are experiencing a decline—for reasons unrelated to export controls—in their relative competitive advantage. This decline is appearing not only in level of technology but also in price competitiveness, product quality, marketing, and service—factors that might otherwise more than compensate for the negative competitive effect of export controls. All policies that contribute to a loss of U.S. competitiveness are of concern, not solely from an economic standpoint but also due to national security considerations. By promoting the emergence and growth of alternative sources of technology to the Soviet Union, such policies make denial or delay yet more difficult to achieve.

One indicator of the *effectiveness* of the control effort is the level of corporate compliance. Although this level can never be determined precisely, there is evidence that compliance has increased in recent years as the current U.S. administration has committed substantial resources to vigorous enforcement. It is difficult, however, to determine whether the enforcement campaign has reduced the number of intentional diversions. Moreover, in terms of the enforcement of reexport controls, the overwhelming majority of applications continue to come from U.S.-headquartered companies and their foreign affiliates, suggesting that compliance by foreign-owned firms is relatively poor. A possible explanation of this phenomenon may stem from foreign attitudes toward these controls as well as from the fact that such controls often duplicate those already imposed by the exporting country. Where there are non-U.S. sources willing to supply comparable products, foreign firms that know of the attendant requirement to comply with U.S. export restrictions may have little incentive to buy U.S. products.

There are also indications that the licensing process discriminates against small- to medium-sized firms. With regard to license denials, processing delays, inaction, and conditional approvals—all factors contributing to uncertainty—there is a pronounced firm-size differential in the administration of national security export controls. Relative to those of large-volume exporters, small firm applications to Free World destinations take 25 percent longer on average.

An indicator of the *efficiency* of the administrative control effort—and a perennial concern of Congress, the business community, and the responsible agencies—is the time it takes to process export licenses. Shipping delays impose direct costs on the exporter and an indirect cost in customer confidence. Both the Commerce Department and DoD have expended substantial effort and resources to speed up the licensing

process, and both have made progress in reducing *average* processing times. What averages in this instance obscure, however, is the highly skewed distribution of processing times. The distribution has an extended "tail," and it is these cases that both absorb a large proportion of the corporate resources devoted to working the system and create uncertainty in the market. The number of such cases is not insignificant; for approximately 5 percent of all applications (and there were 122,606 total applications in 1985), the processing time extends beyond 100 days.

The efficiency of U.S. export control administration is hampered to a substantial degree by the shared responsibility distributed among the relevant agencies—the Departments of Commerce, State, and Defense. It is hampered further by the fact that neither the Department of Commerce nor the Department of State has made as much progress as the Department of Defense in upgrading their human and technical resources and in automating the licensing process. The result is a lack of balance in interagency policy deliberations and inefficiency in the licensing process. Currently, there is also no effective mechanism for weeding out from the Control List those products and technologies that have ceased to be strategic or that have become so widely available that control, for all practical purposes, is impossible. The momentum is to add, not to delete, and the principal licensing agency (the Department of Commerce), with a stake in keeping its task from becoming unmanageable, has been unable to slow it down.

The Militarily Critical Technologies List (MCTL), which is maintained by DoD, serves a limited purpose within the department as a reference document for developing control proposals and informing licensing decisions. It is also useful for identifying those goods and technologies that have dual use potential. But before goods and technologies actually can be controlled, it is necessary to assess their foreign availability (and other factors affecting controllability) and then to strive to gain CoCom-wide restrictions.

One of the principal outcomes of the continuing interagency disagreement on export control policies and procedures has been the virtual breakdown of the technology decontrol process based on positive foreign availability findings, a process originally mandated by Congress in 1979. This breakdown is largely attributable to the fact that no time constraints are specified in the legislation for government completion of investigations of foreign availability. A related problem has been the substantive disagreements between the Departments of Commerce and Defense over both the criteria for determining foreign availability and the strategic importance of particular items. The resulting de facto veto authority exercised by DoD thwarts the intent of Congress, which designated the Department of Commerce as lead agency in determining foreign availability.

Through foreign policy and economic cycles, the premise that Soviet

acquisitions of leading Western dual use technologies represent a serious military threat has not been seriously challenged anywhere in the Western alliance. Although there have been lapses in attention and frequent disputes over scope and means of control, this consensus continues to underlie the success of the current administration's effort to revitalize the CoCom process. The goal of U.S. policy thus should be to so improve the multilateral control system that it is possible to remove controls from West-West trade. The panel believes, however, that there are two features of current U.S. policy that impede progress toward this goal: (1) the tendency to resort to foreign policy trade sanctions to penalize Soviet political behavior without distinguishing such sanctions from national security controls and without consulting our allies before imposing them; and (2) the continuance of extraterritorial controls that signal U.S. mistrust of our CoCom partners and offend their national sovereignty.

These problems notwithstanding, the persistent efforts of the United States over the past 5 years to strengthen CoCom and improve its operational efficiency and effectiveness have produced positive results—results that have not been achieved without certain difficulties. Gaining a consensus among CoCom members has not been easy. The interests of member countries can differ significantly, and each one evaluates the value of trade restrictions against proscribed countries differently. Furthermore, additional efforts now will be required to bring about greater harmonization of national policies on the part of all participating countries to work toward a fully multilateral community of common controls.

Cooperation from countries that are not members of CoCom has become important to the success of the CoCom control efforts. It will be critical in the future as a growing number of third countries become significant markets for CoCom-controlled goods and develop indigenous products that fall within CoCom control parameters. CoCom members have formally agreed—as part of the so-called "third country initiative"—to urge non-CoCom Free World nations to establish and strengthen their controls vis-à-vis proscribed nations. In this regard the United States, with the support of its CoCom allies, has achieved some success in pursuing bilateral agreements with friendly, non-CoCom Free World countries to protect some CoCom- and U.S.-origin goods. Although such agreements have been reached with a few countries, however, none of those concluded to date comes close to meeting the comprehensive criteria proposed by the United States for protecting CoCom-proscribed technology from *all* sources including that produced indigenously.

FINDINGS AND KEY JUDGMENTS OF THE PANEL

Based on the research initiatives and deliberations undertaken in pursuit of its charge, the panel reached unanimous agreement on a series of principal findings and key judgments listed below.

I. THE PRACTICAL BASIS FOR NATIONAL SECURITY EXPORT CONTROLS

The fundamental objective of the national security export control regime maintained by CoCom is to deny—or at least to delay—the Soviet Union and its Warsaw Pact allies access to state-of-the-art Western technology that would permit them to narrow the existing gap in military systems. Yet, there are no well-defined criteria that can be used to determine whether a given technology will enhance significantly Soviet military capability. Moreover, the precise definition and implementation of such criteria will depend to a large extent on the world view of the decision maker. For an export control system to be operationally effective, however, such distinctions must be drawn. This difficulty can be surmounted in practice by establishing a definition that permits effective, practical implementation of controls with our allies, which means restricting controls to technologies that are easily identified with military uses.

II. CONSIDERATIONS INFLUENCING NATIONAL POLICY

1. **Technology lead is vital to Western security and must be maintained.**
   Western security depends on the maintenance of technology lead over potential adversaries. This lead can only be sustained through a dual policy of promoting a vigorous domestic technological base and impeding the outward flow of technologies useful to the Warsaw Pact in military systems.
2. **Export competitiveness is essential to the health of the U.S. domestic economy.**
   In some industrial sectors, especially high-technology enterprises, firms now must remain competitive in the world market to maintain a share of the U.S. domestic market, due to necessary economies of scale and the increased importance of R&D from foreign sources. The new realities of global competition are not yet fully reflected in the policies underlying current U.S. national security export controls.
3. **The scope of current U.S. national security export controls undermines their effectiveness.**
   U.S. national security export controls are not generally perceived as rational, credible, and predictable by many of the nations and

commercial interests whose active cooperation is required for an effective system. In their view the scope of current U.S. controls encompasses too many products and technologies to be administratively feasible. The panel concurs with this judgment.

4. **U.S. national security export controls impede the export sales of U.S. companies.**

   There is limited but specific evidence that export sales have been lost or foregone because of uncertainty or delays in the licensing process and because of concern about future license approvals, availability of spare parts and components, and possible reexport constraints. Once changes in buying preferences occur, they may require large investments of time and effort to reverse.

5. **Pragmatic control lists must be technically sound, narrowly focused, and coordinated multilaterally.**

   Although the control criteria developed in 1976 as part of the report of the Defense Science Board task force (*An Analysis of Export Control of U.S. Technology—A DoD Perspective*), also known as the Bucy report, are theoretically sound, they have not always proven useful to the implementation of national security export controls. The preparation of control lists must be a dynamic process that is both informed by advice from technical advisory groups and constrained by the need to be clear, to focus control efforts more narrowly on fewer items, and to coordinate U.S. action more closely with that of our CoCom allies.

6. **The extraterritorial aspects of U.S. controls engender mistrust and weaken allied unity.**

   Several elements of U.S. national security export controls, especially the requirement for reexport authorization, are having an increasingly corrosive effect on relations with many NATO countries and on other close bilateral relationships. They signal U.S. mistrust of the will and capacity of allies to control the flow of sensitive technology to the Soviet bloc.

III. SOVIET TECHNOLOGY ACQUISITION EFFORTS IN THE WEST

1. **Available evidence on Soviet technology acquisition efforts reinforces the need for effective multilateral export controls.**

   The panel has reviewed a substantial body of evidence—both classified and unclassified—that reveals a large and aggressive Soviet effort to target and acquire Western dual use technology through espionage, diversions, and to a lesser degree legitimate trade. There is limited but specific evidence both on the means by which Soviet acquisitions are accomplished and on their important

role in upgrading or modernizing Soviet military systems. Although internationally coordinated efforts are necessary to counter the use of diversions or legitimate trade for such purposes, export controls are not a means for controlling espionage, which alone accounts for a high proportion of successful Soviet acquisition activities.

2. **Despite systemic difficulties, Soviet technical capabilities have successfully supported the military objectives of the USSR.**

Because the Soviet system does not enjoy the benefits of a robust commercial sector, it is at a fundamental disadvantage in terms of the promotion of technological innovation. Nevertheless, the Soviets have demonstrated an effective technical capability to meet their military objectives.

IV. DIFFUSION AND TRANSFER OF TECHNICAL CAPABILITY

1. **Wide global diffusion of advanced technology necessitates a fully multilateral approach to controls.**

Because advanced technology has now diffused so widely, national security export controls cannot succeed without the following: (1) an effective CoCom process by which the other major CoCom countries accept responsibility for regulating exports and reexports from their territory of CoCom-controlled technology to non-CoCom Free World countries; and (2) the adoption by the more advanced newly industrializing countries of CoCom-like standards for their own indigenous technology.

2. **Controls on the employment of foreign nationals in the U.S. R&D infrastructure must be used selectively and sparingly.**

Foreign nationals now play a significant role in U.S. domestic R&D activities as well as in the laboratories of U.S. foreign subsidiaries. Such individuals contribute significantly to U.S. technological innovation and hence promote the national interest. Sparing use should therefore be made of existing legislative authority to restrict technical exchanges or to limit full participation of foreign citizens in the U.S. R&D community. It is particularly important to distinguish, as appropriate, between citizens of nations to whom exports are proscribed and citizens of all other nations.

V. FOREIGN AVAILABILITY AND FOREIGN CONTROL OF TECHNOLOGY

1. **The congressional mandate for decontrol of items based on foreign availability is not being fulfilled.**

The lack of action on foreign availability is inconsistent with the intent of Congress as expressed most recently in the Export Admin-

istration Amendments Act of 1985. In those cases in which there is foreign availability of U.S.-controlled items, U.S. industry is unfairly placed at a competitive disadvantage with respect to firms from other countries that are not similarly constrained. This disadvantage can lead to the erosion of competitive market advantages previously enjoyed by U.S. industry and in some cases to the permanent loss of U.S. markets.

2. **Control of "technological commodities" is impractical.**

   The control of goods for which the volume of manufacture is so large and the scope of marketing and usage so wide that they have become "technological commodities" (e.g., some classes of personal computers or memory chips) is not practical. Decontrol of such goods to all Free World destinations is, in some cases, the only appropriate solution.

3. **Bilateral agreements with Free World non-CoCom countries must protect all CoCom-origin technology and must control similar indigenously produced goods.**

   Over the short term, bilateral agreements that restrict only the reexport of U.S.-origin technology unfairly disadvantage U.S. companies in international trade. Over the long term, these agreements with non-CoCom countries will not promote the effectiveness of the CoCom export control system unless they restrict the reexport of technology from all CoCom sources as well as technology produced indigenously.

4. **Other CoCom countries must be more vigilant in preventing diversions of both CoCom-origin and indigenously produced technology.**

   Some members of CoCom could substantially improve their efforts to prevent diversions of CoCom-origin products and technology being exported to third countries. Since compliance with U.S. reexport controls is not likely to become politically acceptable in most CoCom countries, some compromise solution must be reached.

5. **The extraterritorial reach of U.S. controls damages allied relations and disadvantages U.S. exporters.**

   The extraterritorial reach of U.S. reexport controls is anathema to most U.S. trading partners. Moreover, many foreign governments do not agree that the United States has jurisdiction over the actions of their citizens outside U.S. territory. The extraterritorial extension of U.S. controls is viewed by these governments as a direct challenge to national sovereignty and a clear violation of international law. It is seen as additional evidence of mistrust by the United States of the capacity of these governments to further the West's common interest in preventing the diversion of militarily important goods and technologies.

VI. EFFECTIVENESS OF THE MULTILATERAL PROCESS

1. **The United States must clearly distinguish foreign policy export controls from national security export controls.**

   There is much less consensus among the CoCom allies on the use of trade restrictions for foreign policy reasons than on controls in the interests of national security. Thus, to the extent that the United States fails to distinguish clearly between the two, allied cooperation in support of consensual national security objectives is undermined.

2. **The impact of controls on advantageous scientific communication and transfer within the Western alliance must be minimized.**

   Because open scientific communication and trade within the West are as important to maintaining Western technology lead as is controlling the flow of technology to the Soviet bloc, U.S. policy should lend equal emphasis to both objectives.

3. **The CoCom countries should take specific steps to bolster the efficiency and effectiveness of multilateral controls.**

   Among the most important issues now facing CoCom are: (a) reduction in the overall scope of the list, (b) modification of the procedures for decontrolling items from the International List of dual use items, and (c) provision of greater transparency in CoCom decision making.

4. **The CoCom process would benefit if all country delegations had balanced economic and defense representation.**

   The U.S. delegation to CoCom, unlike those of other member nations, includes a significant contingent of defense officials. A balance of economic and defense representation on all CoCom delegations would enhance CoCom unity and the usefulness of the CoCom process, in part by helping to resolve conflicts between competing economic and military objectives.

5. **Foreign perceptions of U.S. commercial advantage derived from export controls impede multilateral cooperation.**

   There is a widely held view in Europe and the Far East that the United States uses its national security export controls to afford commercial advantage to U.S. companies. Although the panel found no substantive evidence to support this view, the existence of these perceptions makes it difficult to gain effective multilateral cooperation.

6. **Unilateral controls are of limited efficacy and may undermine allied cooperation.**

   The imposition by the United States of unilateral national security export controls for dual use items can be justified only as a stopgap measure pending negotiations for the imposition of multilateral controls or in rare cases in which critical national security concerns

are at stake requiring unilateral restrictions. It must be recognized that, except when used as a temporary measure, the application of unilateral controls undermines the incentive of the allies to develop a sound basis for multilateral restriction.

VII. ADMINISTRATION OF U.S. NATIONAL SECURITY EXPORT CONTROL POLICIES AND PROCEDURES

1. **The lack of high-level oversight and direction degrades the effectiveness of U.S. controls.**

   The administrative structures established by the executive branch have not proven effective in resolving the frequent policy differences among the three principal line agencies (the Departments of State, Defense, and Commerce). The White House has intervened only intermittently and then primarily to contain interagency conflict rather than to provide adequate policy direction. The lack of higher-level oversight and direction results in duplication of effort, uncertain lines of authority, serious delays in decision making, and underutilization of information-sharing capacity.

2. **Unequal effort by and resources of the three principal line agencies have led to conflict, confusion, and unbalanced policy.**

   DoD's determined efforts to reinvigorate the national security export control regime have been useful in raising the general level of awareness in the United States and in other CoCom countries. But this increasingly active DoD role also has led to an imbalance in the distribution of government effort and resources. Although DoD has created a new dedicated agency for technology security, neither the Department of Commerce nor the Department of State has been able to implement equally effective measures. The result is a lack of balance in the interagency policy formulation process and an inefficient licensing process.

3. **Shifts in responsibility within the line agencies may preclude broadly informed and balanced policy judgments.**

   Reorganization initiatives in a number of the principal line agencies tasked with managing export controls have resulted in a shift of responsibility away from organizations with expertise in technology development and international trade and toward those whose principal and often only concern is technology control. Although there have been positive effects of this shift in responsibility, there has been a loss of sustained technical input into the policy process for national security export controls.

4. **Current licensing requirements, classification procedures, and proprietary controls for technical data are both appropriate and adequate.**

   Although technical data that are not publicly available require a

validated license for export to the Soviet bloc, data exports to other destinations for the most part are eligible for a general license. The need for the unhindered exchange of large volumes of data in international commerce and research indicates that a strict system of control is neither feasible nor desirable. Existing licensing requirements, classification procedures, and proprietary controls offer sufficient protection.

5. **Controls on unclassified DoD technical data have a chilling effect on the U.S. R&D community and should be imposed sparingly.**

   The Department of Defense Authorization Act (DAA) of 1984 permits DoD to impose restrictions on domestic dissemination or export of DoD-funded or DoD-generated technical data whose export would otherwise require a validated license under EAR or ITAR. Such restrictions have the effect of creating de facto a new category of unclassified but restricted information. These new, more comprehensive technical data restrictions have had a chilling effect on some professional scientific and engineering societies that have elected voluntarily to close certain sessions. It is the panel's judgment that imposing controls on technical data that are broader than those now in effect is not warranted by the demonstrable national security benefits.

6. **The congressional mandate for integrating the Militarily Critical Technologies List (MCTL) into the Commerce Department Control List practically cannot be accomplished.**

   The MCTL has been used inappropriately as a control list, and its annual revision has resulted in a voluminous itemization of many important technologies without apparent prioritization. Because the Departments of Defense and Commerce maintain fundamentally different objectives in their list development exercises, the congressionally mandated task of integrating the MCTL into the Commerce Department's control list practically cannot be accomplished.

7. **The complexity of U.S. export controls discourages compliance.**

   The complexity of U.S. controls discourages compliance, especially by foreign firms and small- to medium-sized U.S. companies. For example, the Export Administration Regulations constitute nearly 600 pages of rules and procedures. These could be reduced and simplified substantially—and made more "user friendly."

8. **There is a need for high-level industry input in the formulation of national security export control policy.**

   There is a need for an effective mechanism within the government to provide meaningful input from the private sector on the formulation of a coordinated national security export control policy. Such a group must be constituted at sufficiently high corporate levels to reflect major industry concerns, and it must be able to have an impact on the actual policy process.

9. **Voluntary cooperation from industry is important to the enforcement of export controls.**

   Voluntary cooperation by U.S. industry—particularly companies with overseas subsidiaries—is important to export control enforcement, especially in the identification of violations. Companies frequently have knowledge otherwise unavailable to the government of possible violations by other firms.

10. **Adequate information to evaluate the impact of national security export controls is not maintained by the U.S. government.**

    This study has revealed serious shortcomings in both the quality and quantity of information maintained and analyzed by the U.S. government on the coverage, operation, and domestic and global impacts of national security export controls. In the absence of better information, it will continue to be difficult for policymakers to arrive at more informed and balanced judgments as to the advisability of controls.

11. **A comprehensive cost/benefit analysis of controls currently is infeasible.**

    Despite some preliminary efforts to assess the competitive effects of national security export controls, a *comprehensive* empirical analysis of the costs and benefits is precluded by the lack of data, by the complexity of the system, and by a variety of qualitative judgments that must enter into any evaluation.

There is little doubt that, without the heightened attention to these issues initiated in the early years of the current administration by DoD, the problem of Western technology diversion to the Soviet Union would by now be considerably worse. But the panel is concerned that this policy "correction"—useful and necessary as it was—should not now overshoot the mark. The panel wishes to reiterate therefore its concern about the continuing lack of balance within the policy process for national security export controls regarding the representation of technical, national security, economic, and domestic and international political interests. This balance should be developed and maintained within each agency, among agencies of the U.S. government, and among countries participating in CoCom.

PRINCIPAL RECOMMENDATIONS OF THE PANEL

The panel makes two basic recommendations, together with a series of corollary prescriptions.

I. STRENGTHEN THE COCOM MECHANISM

The panel recommends that the United States take the lead in further strengthening the CoCom mechanism so that it can function as the linchpin of a fully multilateral national security export control regime for dual use technologies. Under current and prospective global circumstances, such a multinational system is essential to achieve maximum export control effectiveness without impairing Western economic vitality. To strengthen the current multilateral control regime will require greater harmonization of the current U.S. approach and those of our technologically advanced allies through closer consultation and the adoption of policies that promote cooperation. The two most immediate objectives are: (1) to limit the coverage of the U.S. Control List and the CoCom International List to those items whose acquisition would significantly enhance Soviet bloc military capabilities and that are feasible to control, and (2) to obtain agreement on a common approach to reexports of CoCom-origin items.

The United States should strive to create a community of common controls in dual use technology—that is, a set of trade relationships unimpeded by national security restrictions—among those Free World nations that share an expressed willingness to adhere to common or equivalent export control restraints on the transfer of strategic and controllable goods and technologies to the Soviet Union and its Warsaw Pact allies. Accordingly, the panel recommends the following changes in U.S. policy.

1. Control Only CoCom-Proscribed Items

As a general policy, the United States should seek to control only the export of CoCom-proscribed items and then only when they are destined for a proscribed country or for a non-CoCom Free World country that has not entered into an agreement* to protect CoCom-proscribed technology.

2. Within CoCom, Seek Control on Exports to Third Countries

With respect to CoCom, the United States should negotiate agreements with member countries regarding control of exports and reexports from their territories to third (i.e., Free World non-

*Such an agreement might be implemented either through a formal memorandum of understanding or an informal arrangement that achieves the same result.

CoCom) countries, thereby obviating the need for U.S. reexport authorizations. For those CoCom countries with which agreement on the control of exports to third countries can be achieved, the requirement to obtain validated licenses should be eliminated—*except* for the export of extremely sensitive high-level technology (e.g., supercomputers). For those CoCom countries unwilling to agree to or unable to implement such controls, the present system of validated licenses should be retained.

3. **Negotiate Comprehensive Understandings with Third Countries**

With respect to non-CoCom Free World countries, the United States should, in coordination with other members of CoCom, negotiate *comprehensive* understandings—or equally effective informal arrangements considered acceptable by the Department of State—that specify controls on the export of all CoCom-proscribed goods and technology (including those produced indigenously) to the Warsaw Pact countries or to other noncooperating third countries. A graduated scheme of incentives should be developed for non-CoCom Free World countries that agree to less than comprehensive controls. Those third countries that have agreed to comprehensive arrangements should be accorded full "CoCom-like" treatment; that is, they should not be subject to U.S.- validated license or reexport authorizations as soon as they can demonstrate their ability and willingness to enforce the control agreement.

4. **Remove Items Whose Control Is No Longer Feasible**

Regardless of the rate of progress on CoCom and third country negotiations, the United States should actively seek to remove from both the U.S. Control List and the CoCom International List items whose control is no longer feasible because of their widespread production, distribution, and sale throughout the world. (See also Item II.4 on p. 27.)

5. **Maintain Unilateral Controls Only on a Temporary Basis or for Limited, Unique National Security Circumstances**

Regardless of the rate of progress on CoCom and third country negotiations, the United States should eliminate the use of unilateral national security export controls *except* in those circumstances in which active efforts are under way to negotiate multilateral controls within and outside of CoCom—in which case unilateral controls could be maintained on a temporary basis—*or* in those situations in which unique national security circumstances warrant the imposition of such controls for limited periods of time. The panel wishes to emphasize, however, that the phrase "unique national security circumstances" does not justify retaining the present U.S. unilateral Control List. Rather, the panel recommends that controls be estab-

lished on a multilateral basis. In the *rare* case in which a CoCom country may believe that critical national security concerns are at stake, it may wish to reserve the right to establish a unilateral restriction on its domestic industry. This exception should be used sparingly.

6. **Eliminate Reexport Authorization Requirements in Countries Participating in a Community of Common Export Controls on Dual Use Technology**

   To further the objective of developing a community of common controls on dual use technology among cooperating countries of the Free World and to encourage international cooperation and trust, the United States should eliminate any requirement that a buyer must seek authorization for a reexport that is subject to CoCom or "CoCom-like" controls by the country initially exporting the product or technology. For effective enforcement, reliance should be placed instead on the cooperating governments.

7. **Maintain Current Control Procedures on the Transfer Within CoCom of Sensitive Information, Technical Data, and Know-how**

   The United States should continue to rely on current security classification procedures and the protection afforded by general license GTDR (technical data restricted) or by proprietary interests to control the transfer within CoCom of information, technical data, and know-how that are considered militarily important.

8. **Reduce the Scope of the CoCom List and Modify CoCom Decision-Making Policies and Procedures**

   There are a number of steps that the United States—together with its CoCom allies—should take to improve the efficiency and effectiveness of the multilateral process. The most important of these are to reduce the overall scope of the CoCom International List to improve credibility and enforcement and to add a 4-year "sunset provision" that would cause the automatic removal (unless they were periodically rejustified) of lower-level CoCom items.

9. **Maintain a Clear Separation Between National Security and Foreign Policy Export Controls**

   Existing statutory authority describes separate systems and procedures for the control of exports for foreign policy versus national security reasons. Therefore, because many of our CoCom allies continue to disagree profoundly with some unilateral U.S. foreign policy trade sanctions, the U.S. government should maintain the clearest possible distinction between the administration of national security and foreign policy controls.

II. ACCORD GREATER IMPORTANCE IN U.S. NATIONAL SECURITY EXPORT CONTROL DECISIONS TO MAINTAINING U.S. TECHNOLOGICAL STRENGTH, ECONOMIC VITALITY, AND ALLIED UNITY

The panel recommends that executive branch decisions concerning national security export controls accord greater importance than they currently do to maintaining U.S. technological strength, economic vigor, and allied unity. Ultimately, an effective multilateral national security export control regime can be established only through the commitment and support of the President and Congress. Nevertheless, the decision-making and advisory mechanisms of government also must be constituted and tasked appropriately to facilitate the effective implementation of the policy approach proposed above. To this end, the panel recommends the following specific changes in U.S. policy and procedures.

1. **Balance the Protection of Military Security with the Promotion of National Economic Vitality Through Affirmative Policy Direction**

   The President should require that the National Security Council (NSC) implement the *existing* policy mandate (as set forth in the Export Administration Act of 1979, as amended), which calls for both the protection of military security and the promotion of national economic interests. NSC should provide *regular*, affirmative policy direction to the responsible line agencies, a recommendation that can be accomplished by staffing the NSC properly to deal with these matters and by assigning a senior NSC staff member specific responsibility for bringing agency representatives together to resolve policy differences. The panel further recommends that the secretaries of commerce and treasury participate in NSC meetings at which export control matters are to be addressed.

2. **Provide Sufficient Resources and Authority to the Departments of Commerce and State to Allow Them to Fulfill Their Roles in the Export Control Process**

   To establish a more balanced policymaking process within the federal government, the Departments of Commerce and State should be allocated sufficient resources dedicated to the implementation of national security export controls. In particular the Commerce Department should upgrade significantly the capacity and sophistication of its automated systems and the quality of its in-house technical and analytic expertise. It is also essential that the State Department vigorously exercise its traditional role of ensuring that the U.S. government speaks with a single, coherent voice when dealing with foreign governments and foreign firms on these matters.

3. **Restore Technical Judgment and Overall Balance to the National Security Export Licensing Process**

   The locus of responsibility and decision making within DoD has shifted from the office responsible for research and engineering to the office responsible for policy. As a result, there has been a significant reduction in the weight accorded to technical factors and a resultant imbalance in the policy process. It should now be the goal therefore to reestablish a major role for the technical side of DoD and to reduce the DoD role in detailed license review as parallel steps are taken within the Commerce Department to further strengthen its licensing procedures.

4. **Implement the Decontrol Procedures Required by Law When Foreign Availability is Found to Exist**

   The lack of action by the federal government on foreign availability determinations is contrary to the mandate of the Export Administration Act of 1979, as amended. This is due in part to the fact that no specific time lines for the completion of foreign availability determinations have been specified in legislation. At the very least the Export Administration Act should impose reasonable time lines on *all* responsible agencies. Because the process for determining foreign availability is not now functioning effectively, there is a need for effective remedial action by both the executive and legislative branches.

5. **Withdraw the Statutory Requirement to Integrate the MCTL into the Commerce Department's Control List**

   Congress should withdraw the statutory requirement for the integration of the Militarily Critical Technologies List into the U.S. Control List. The fundamentally different nature and functions of the two lists—the former an exhaustive list of all technologies with military utility and the latter a specific list of items requiring an export license—make this goal unattainable.

6. **Provide Effective, Two-Way Communication at the Highest Levels Between Government and the Private Sector**

   A mechanism should be established (or upgraded) to provide effective, two-way communication between the highest levels of government and of the private sector on the formulation and implementation of coordinated national policies that balance military security and economic vitality. To this end the panel recommends that senior policy staff of the Executive Office of the President meet periodically with the President's Export Council and/or other respected representatives of the private sector and inform the President of the concerns of this sector regarding the domestic and international commercial impacts of national security export controls. It may be necessary for Congress to establish a mechanism to ensure appropriate consideration of industrial concerns in the formulation of national security export control policy.

Dr. ALLEN. I would like to now introduce the panel members who have accompanied me. To my immediate left is Leif Olsen, distinguished economist, presently with his own firm—I seem to be echoing—presently with his own firm in New York City but most recently chief economist of Citibank. On his left is Tom Christiansen who is the manager for international trade relations of Hewlett-Packard; and to his left is Ruth Greenstein, lawyer and presently vice president and treasurer of Genex Corporation. These three distinguished people represent some of the array of skills that were represented in our panel's deliberations.

Advanced technology is very important to Western military security. In the West, there are many technologies of military value that derive from the commercial sector, and they are called dual use technologies; obvious examples are electronics and computers; and in the report we note that the importance to the U.S. military of commercially derived technology is increasing. The recent report that David Packard made in the presidential commission recommends that the Defense Department use even more commercially derived products in military systems because of their advantages in economy and in performance.

So we're talking today about dual use products—that is, goods manufactured for commercial use but which could be used for military purposes.

In the West, and especially the United States, the vigor of university research and research that is driven by commercial interests in high technology is a great advantage. The Soviets are deficient in many technical areas because of a very weak commercial sector and stultifying bureaucracy. The Soviets attempt to offset this weakness in a number of ways. They engage in a systematic and centrally directed effort to acquire and apply Western technology.

Now here today we're talking about the Soviet purchase of commercial goods from authorized or unauthorized suppliers. Now this is not a satisfactory solution for them. Overall it's our observation that the East-West technological gap is not decreasing in the areas that benefit from dual use technologies. We observed, as did the Bucy panel some ten years ago, that reverse engineering—that is, where you learn to manufacture something by having acquired a single copy of it, such as a semiconductor chip—is not very useful. Such a copycat approach that the Soviets do attempt to use in a number of areas seems to ensure for them mediocrity and delay.

Now as we note in our report, the Soviets are certainly strong in some fields, and for uniquely military technology, where they apply substantial resources and very directed management, they are very successful. In particular, that success is manifested by the fact that the fielded equipment of the Warsaw Pact forces is modern and it's comparable to the fielded NATO equipment. That's even though the high technology end of NATO or U.S. equipment is superior to the most advanced Soviet systems.

Now the control of sales of military systems, of course, is through the Munitions Act, and that's not our subject today but, rather, commercial goods.

The United States is not as dominant today as it once was in many of these dual use technologies. There are Western coun-

tries—Japan, for example—where the capabilities in product manufacture and in the manufacturing technology certainly equals our own and probably leads the world. In addition, this dual use technology is diffusing very rapidly.

The newly industrialized countries are a case in point, and some of these—for instance, South Korea, Taiwan perhaps—now have the capability to manufacture dual use items which in a few cases exceed Soviet technical capabilities. So even though we regard these companies as being well behind us because they don't have an indigenous R&D base, we must remember that in some areas their manufacturing capability is now, or shortly will be, at a point where they are even alternative sources of the technology that the Soviets are seeking.

Therefore, what we conclude is that controls are necessary to impede the transfer from the West to the East of militarily important dual use technologies, but the controls can't be static and they can't be unilateral, they must be dynamic, and they must be multinational.

The mechanism which we have for implementing a multilateral control system is CoCom among the Western allies. It's an informal, non-treaty organization, and we must consider newly industrialized countries because they're a growing concern in this new global technological environment.

We're considering export controls as they are legislated by the Export Administration Act as amended. These controls can be for several purposes—national security, foreign policy, or short supply—but our considerations deal with national security export controls only. These controls are for the purpose of restricting the transfer of commercial goods of significant military utility to the Soviet Union and its Warsaw Pact allies. The coordinating arrangement with CoCom, our NATO allies, plus Japan, is based on a common view of the military threat from the Soviet Union. CoCom is important, it's based on that common view, and it must be nurtured.

The U.S. Government has made in the last six years a major effort to invigorate and strengthen these controls and to revitalize the CoCom process. In large measure, this effort has focused on reducing diversion, and that is addressing the circumstances in which U.S. exports are diverted from Free World legitimate channels to reach the Soviet Union.

In our study we really haven't addressed very significantly the issue of West-East trade—that is, whether or not exports of Western high technology to the Soviet Union should or could be increased—even though we believe that there is some increase in the lower technology end which could be done without serious harm to Western military security. But instead our focus in the report is on the effectiveness of the controls in impeding the unwanted transfer of high technology—dual use items of the Soviet Union and its allies—and the extent to which these controls have unintended effects on West-West trade and the relations that we have with our friends and allies in the world upon whom we must depend.

The present system has some faults, and some of these problems may actually be a result of the very diligent efforts over the last six years which could in some cases have over-corrected the short-

comings that were identified when this administration entered office.

The current system of controls does impede West-West trade, and it selectively impedes U.S. trade with our Western trading partners. We estimate that in 1985 roughly 40 percent of all U.S. export of manufactures—and that was about $62 billion worth—were subject to Government review and approval for national security purposes. Because the United States is more stringent in applying these controls than are our CoCom allies, and because we control more items, the U.S. exporter is at a competitive disadvantage.

The dollar cost to U.S. business is significant. We've made an attempt through a study that we commissioned to estimate the magnitude of that cost as it's caused by the differences between our control system and that of our allies, not as though there were no control system but to ask the question of what cost advantages would exist if we'd played on the same competitive playing field as our allies do.

The controls as they're presently implemented irritate our allies because of their extraterritorial features. They tend to inhibit the cooperation of business that is really required for their effective implementation and enforcement, and there is now clear evidence which the panel received that they're discouraging the use by other Western countries of U.S.-manufactured components.

In some cases, there is now a conscious effort under way—that is, a policy stated by major foreign manufacturers—that is referred to as de-Americanization to design around or find alternatives to the use of U.S. parts, components, and equipment, and within the United States the complexity of the controls discourages small high-tech businesses from seeking to emphasize exports. The unilateral aspects of export controls are damaging our competitiveness in high-tech areas where we have in the past had real strength.

The present system of controls is cumbersome, it's confusing to the people who have to operate within it, and we think it's ineffective in part because of these factors.

We made trips overseas to countries in Europe and Asia which are part of the CoCom agreement and the newly industrializing countries and to advanced neutral countries. In all of these countries a remarkable fact stood out, and that is that these countries agree with the intent of our policy. They agree with the fundamental idea that the United States must take the lead in impeding the flow of militarily significant dual use technology to the Soviet Union.

But in spite of the agreement of our purpose, our friends and allies regard the U.S. policy as it's currently administered as being excessive, not as effective as it should be, and intrusive in their affairs, and that latter view is a function of the extraterritorial aspects of the U.S. reexport control requirements.

As we have assessed how the executive branch has been dealing with these matters, we have been forced to conclude that the policy process is in some disarray. The Department of Defense has aggressively taken the initiative and exercised a de facto veto over proposals from Commerce which is actually assigned the principal authority by law. The Department of Commerce, on the other hand,

has been relatively weak and ineffective, and the Department of State has allowed the U.S. Government on occasion to be speaking with several voices, and the so-called over-arching mechanism—that is, how the President resolves conflict among the departments, which has been usually the mechanisms of the National Security Council—has not exercised effective leadership.

In effect, what's happened is that the Department of Defense has accepted the charge from the President to invigorate the system, and it's done so. In the process, it has simply outclassed the other agencies of Government in its personnel and financial resources and its bureaucratic skills, and, as a result, the other agencies of Government have become demoralized, and that's led to what we now believe is an unbalanced policy.

What we've tried to say is fairly straightforward. The controls are needed, the system must be multinational—at present we operate in kind of a dual system with some unilateral controls—and then those controls agreed to by CoCom.

The United States can and should lead, but this country can control by itself only a very few items—Cray supercomputers perhaps, but not much more. Everything else must be controlled through a community of common controls on dual use technology that involves, at the very least, the most industrialized countries of CoCom, but, better, those common controls should involve the other members of CoCom as well and as many advanced countries around the world as we can bring aboard.

For a large fraction of the items presently controlled, the United States cannot control them by themselves—by ourselves, since equivalent items are available from Western countries. So for those items unilateral controls and reexport controls are simply not effective, and that leads us to recommend that the United States should strive to control only CoCom-proscribed items, and to do that we've got to reduce the number of items, take off the low technology end items that the United States restricts, in order to get focus and agreement on the most critical items that need protection.

This third country issue—that is, the non-CoCom Free World countries—has to be worked very hard. Our Government has been trying to do this and has made progress, but the agreements so far are incomplete in scope. That is, they deal only with getting the third countries to agree about the re-export of U.S.-generated items, but we need to extend that to the broader scope of CoCom-controlled items and even in the future to indigenously produced items.

As the United States and other countries strive to create this community of common controls, we think it should be possible and it should be the goal of the United States to abandon the extraterritorial features of our present policy, and by that we mean the application of U.S. laws within other countries, which is a serious concern to our allies.

We emphasize in the report that the United States must continue to encourage vigorous technology advance in this country and indeed among our Western allies as well. Economic vitality generally and economic strength in the high technology commercial sector particularly is an important aspect of national security. We

must run faster. Technology won't stand still in the West, or the Soviet Union for that matter. The only long-term answer to competitiveness is vigor and progress, and the only long-term answer to Western technological superiority is Western technological progress.

In our making our recommendations, we've also addressed a number of other factors. We believe there is a need to put technical judgment back into the process. The departments of Government have tended to move the responsibility from the technical side of the House to the side that's concerned with security policy, and they've tended to diminish the weight of technical in some cases and economic considerations in the other from the formulation of policy, and that balance, we think, needs to be corrected.

We think the Department of Commerce should be put back in the leadership role of export control matters. To do so, they've got to strengthen their human and technical capabilities, and they must get a better hold on the broad issues. We believe that the Government, through the Department of Commerce but also at the higher levels associated with the National Security Council, should advocate trade as a part of a broaden conception of U.S. national security. There really isn't an adequate mechanism for trade advocacy in addressing many of these issues within Government.

And, finally, we make the point in that same vein that the administration needs to listen to business. It has some mechanisms for doing that, but they've not been used very effectively in the past.

Mr. Chairman, the title of our report is "Balancing the National Interest." We believe it is important to balance those interests so that we can have more effective export controls and be better able to compete globally economically with an appropriate address of the balance.

At this time, Mr. Chairman, with your permission, I'd like to ask my colleagues if they'd like to make some general remarks in the matter of opening.

[The prepared statement of Dr. Allen follows:]

TESTIMONY BY LEW ALLEN, JR., CHAIRMAN, PANEL ON THE IMPACT OF NATIONAL SECURITY CONTROLS ON INTERNATIONAL TECHNOLOGY TRANSFER, COMMITTEE ON SCIENCE, ENGINEERING AND PUBLIC POLICY OF THE NATIONAL ACADEMY OF SCIENCES, NATIONAL ACADEMY OF ENGINEERING, AND INSTITUTE OF MEDICINE

Mr. Chairman and members of the committee: I am delighted to be here today to discuss the report of the Panel on National Security Controls on International Technology Transfer of the National Academy complex. I would like first to introduce the panel members who are accompanying me. Some of them are already familiar to you: Thomas A. Christiansen, Manager, International Trade Relations, Hewlett-Packard Company, Palo Alto, California; Ruth L Greenstein, Vice President and Treasurer, Genex Corporation, Rockville, Maryland; and Leif H. Olsen, Leif H. Olsen Associates, New York, New York.

Advanced technology is very important to Western military security. In the West, many technologies of military value derive from the commercial sector and are called "dual use" technologies. The obvious examples are electronics and computers, and we note in the report that the importance to the U.S. military of commercially derived technology is increasing. The recent report of the Packard Commission recommends that the Defense Department use even more commercially derived products in military systems.

In the West, and especially in the United States, the vigor of university research and the research which is driven by commercial interests in high technology are a great advantage. The Soviets are deficient in many technical areas because of a very

weak commercial sector. The Soviets attempt to offset this weakness in a number of ways. But of particular interest to the panel is the fact that they engage in a systematic and centrally directed effort to acquire and apply Western technology.

We believe that this is not a satisfactory solution for them. Overall the East-West technological gap is not decreasing in the areas that benefit from dual use technologies. We observed, as did the Bucy panel ten years ago, that reverse engineering—that is, learning to manufacture a product such as a memory chip from the acquisition of a single copy—is not very useful. Such a copycat approach, which the Soviets use in a number of areas, seems to ensure mediocrity and delay.

But we note in our report that the Soviets are certainly strong is some fields, and that for uniquely military technology where they apply substantial resources, they are quite successful. In particular, that success is manifested by the fact that the fielded equipment of Warsaw Pact forces is modern and comparable to that of fielded NATO equipment, even though the high-technology end of NATO weapon systems is superior to the most advanced Soviet equipment.

The United States is no longer as dominant as it once was in many dual use technologies. There are Western industrialized countries—Japan, for example—whose product and manufacturing technology are equal to our own or lead the world. In addition, dual use technology is diffusing very rapidly. The newly industrializing countries (NICs) are a case in point; some of these countries—e.g., South Korea and Taiwan—now have the capability to manufacture dual use items which, in some cases, exceed Soviet technical capabilities. So, although we tend to regard the NICs as well behind (because they lack an indigenous R&D base), it is wise to remember that, in selected areas, their manufacturing capability is now or shortly will be at a point where they are alternative sources of the technology that the Soviets are seeking.

The conclusion that our panel reached from examining the current situation is that controls are necessary to impede the transfer from the West to the East of militarily important dual use technologies. But these controls cannot be static or unilateral. To be effective, the control system must be dynamic and fully multinational. CoCom is the mechanism for implementing a multilateral control system among the Western allies. But neutral and newly industrializing countries are a growing concern in the new global technological environment.

I would like now to shift to a discussion of the controls themselves: the U.S. government has made a major effort in the last 6 years to invigorate and strengthen the controls, and to revitalize the CoCom process. In large measure, this effort has focused on reducing diversion—that is, addressing the circumstances in which U.S. exports are diverted from Free World trade channels to reach the Soviet Union.

In our study, the panel has not addressed the issue of West-East trade in great detail—that is, whether or not exports of Western high technology items to the Eastern bloc should be increased—even though the panel generally believes that there could be some increase in such trade without serious harm to Western military security. Rather, our primary focus in the report is on the effectiveness of the controls in impeding the unwanted transfer of high technology, dual use items to the Soviet Union and its allies, and whether such controls have unintended effects on West-West trade and relations with our friends and allies in the Free World.

The present control system has a number of faults. Some of these problems are actually the result of the diligent efforts over the last 6 years which we believe have, in some cases, overcorrected the shortcomings that were identified when this administration entered office. The current system of controls does impede West-West trade, and it selectively impedes U.S. trade with our Western trading partners.

We estimate that in 1985 roughly 40 percent of all U.S. exports of manufacturers—about $62 billion worth—were subject to government review and approval for national security purposes. Because the United States is more stringent in applying controls than are the CoCom allies and because we control more items the U.S. exporter is at a competitive disadvantage. The dollar cost to U.S. business is significant, and we have made an attempt through a commissioned study to estimate the magnitude of the cost caused by the differences in controls from our allies.

The controls as they are presently implemented irritate our allies. They also tend to inhibit business cooperation that is required for their effective implementation and enforcement. There is now evidence that they are discouraging the use by other Western countries of U.S.-manufactured components. In some cases, there is now a conscious effort underway—sometimes referred to as "de-Americanization"—to design around or find alternatives to the use of U.S. parts, components, and equipment. And within the United States the complexity of the controls discourages small high-tech businesses from seeking to emphasize exports. The unilateral as-

pects of export controls are damaging U.S. competitiveness in the high-tech areas where we have had strength.

The present system of controls is cumbersome. It is very confusing to those people who must operate within it. And it is ineffective, in part, because of these factors.

Delegations of the panel made two major overseas visits to countries in Europe and Asia which are part of the CoCom agreement, to newly industrializing countries, and to advanced neutral countries. In all of these countries, there was strong support for the intent of U.S. policy. That is, we did not encounter any fundamental disagreement with the idea that the United States should take the lead in impeding the flow of militarily significant dual use technology to the Soviet Union. But, with a fair degree of unanimity, our friends and allies regard U.S. policy, as it is currently administered, as being excessive, not very effective, and intrusive in their affairs. The latter view is a function of the extraterritorial aspects of U.S. reexport control requirements.

As we assessed how the executive branch has been dealing with these matters, we concluded that the policy process is in disarray. The Department of Defense has aggressively taken the initiative and exercises a de facto veto over proposals of the Department of Commerce, which is actually assigned the principal authority by law. The Department of Commerce, on the other hand, has been relatively weak and ineffective. The Department of State has allowed the U.S. government to appear to be speaking with several voices. And the so-called overarching mechanisms—namely, the National Security Council and the mechanisms that exist to develop policy and resolve interagency conflicts—have not exercised leadership.

In effect, the Department of Defense has accepted the charge from the President to invigorate the system, and it has done so. In the process, it has simply outclassed the other agencies of government in its personnel and financial resources and its bureaucratic skills. As a result, the other agencies of the government have become demoralized and this has led to unbalanced policy.

What we have tried to say in our findings and recommendations is really quite straightforward: that controls are needed and that the system must be multinational. The United States can and should lead but this country can control by itself only a few items, e.g., supercomputers. But everything else must be controlled through a "community of common controls on dual use technology" that involves at least the so-called first tier countries of CoCom. But, better, such common controls should involve other members of CoCom as well and as many other advanced countries as one can bring aboard.

This leads us to recommend that the United States should strive to control only CoCom-proscribed items. To do that, it is going to be necessary to reduce the number of items that the United States restricts, in order to get focus and agreement on the most critical items that need protection. We think the "third country" issue—i.e., non-Cocom, Free World countries—has to be worked very hard. Our government has been trying to do this with some progress—but with incomplete scope of agreement. As the United States and other countries strive to create a community of common controls, we believe it should be possible to abandon the extraterritorial features of current U.S. policy.

We emphasize in the report that the United States must continue to encourage vigorous technology advance in this country, and indeed among our Western allies as well. Economic vitality generally, and economic strength in the high-technology commercial sector particularly, is important for national security.

In making our specific recommendations, we have also addressed a number of other factors, including the need to put technical judgment back into the process. We have observed that the departments of government have tended to assign responsibility for export controls to the agencies concerned only with security policy. In so doing, they have tended to diminish the weight of technical and economic considerations. We think that this imbalance needs to be corrected.

We think that the Department of Commerce should be put back in the leadership role of export control matters, and that to do so, they must strengthen their human and technical capabilities and must get a better hold on the issues. We believe that the government—through the Department of Commerce but also at higher levels associated with the National Security Council—should advocate trade as a part of a broadened conception of U.S. national security. There really is not an adequate mechanism for trade advocacy in addressing many of these issues within the government. Finally, we make the point, in the same vein, that the administration needs to listen to business. It has some mechanisms for doing this, but they have not been used effectively.

This administration has accomplished needed improvements in the administration of national security exports, by both the United States and its allies. But the per-

formance of the U.S. government on this matter has not been fully satisfactory—and will be increasingly less so because of prevailing trends in international trade, and technology development and diffusion. Although most of the necessary mechanisms appear to be in place, the U.S. policy process for national security export controls continues to lack proper direction and affirmative leadership at the highest level to balance both military security and economic vitality. In the absence of appropriate corrective measures, the current system of export controls will exact ever higher costs—on both Western economic vitality and innovative capacity and on the military security of the United States and its allies.

Mr. Chairman, we believe that the Export Administration Act as amended recognizes the need for balancing national interests and provides adequate authority for accomplishing the objectives we have outlined. It would be feasible and even preferable to implement these changes by administrative action. We nevertheless recognize the importance of congressional support and initiative. We also understand that the administration may itself recommend legislative changes in context of trade legislation. We are therefore pleased to answer any questions about the report that may assist you in evaluating proposals for change.

I have with my written statement a copy of the Executive Summary of the report, "Balancing the National Interest: U.S. National Security Export Controls and Global Economic Competition" I wish to submit it for the hearing record.

With your permission, I would like to ask the other panel members if they wish to make any remarks of a general nature.

Mr. OLSEN. No. I think I will save the time for the questions.

Mr. ROE. Is there anyone else?

Mr. CHRISTIANSEN. So will I.

Dr. ALLEN. Mr. Chairman, may I introduce Dr. Mitchel Wallerstein who is sitting on the far right, who is a member of the National Academy staff and who is the senior responsible person in residence that will be able to answer questions that your staff may have in the future.

Mr. ROE. Ms. Greenstein, did you want to make any comments?

Ms. GREENSTEIN. No. I'll pass. Thank you.

Mr. ROE. All right. Well, thank you for your very substantive presentation, and let me see if I can, in my humble way, attempt to bring it into focus. I think that on page 10 you make the point, in the center part of that, which I think perhaps is the key comment made, that, "National Security"—you refer to the National Security Council—let that go a minute—but you say "should advocate trade as a part of a broadened conception of U.S. national security."

So what you're saying there, from the Chair's observation—and correct me if I'm wrong—that, one, in order for us to reach the competitiveness stage, we need to be able to compete internationally in our trade and economic development in our own country. The issue really before the Congress and therefore this panel is based upon the point of view of how far do we go, what is critical material, where does it lie, and how do we protect the security of the Nation. But how do we sift through all of the other—the word comes to my mind, and it's not a very good English word, I think it's called gobbledygook, or something of that nature—to get through it so that we can be out there competing. To what degree do we tilt that, and how do we work that out in the best interests of the Nation. Is that a fair comment to make?

Dr. ALLEN. Yes, sir, that's fair.

Mr. ROE. That's the central focal point, as to what direction we go and what we do on policy. You and your distinguished panel have reviewed this now in great depth, and I want to commend you

for your testimony, because I think you put it clearly and succinctly into focus, and that's where we want to start the hearing.

The Chair now defers to the distinguished ranking Member, the Honorable Manuel Lujan from New Mexico.

Mr. LUJAN. Thank you, Mr. Chairman, and I suppose that's exactly what bothers all of us and what we look at.

In our briefings we find that in 1985 prior Government approval was required for more than half of all U.S. exports of manufactured goods shipped to countries other than Canada. That's on the one side where you have a lot, and it appears to be too much, regulation.

The other side, you say CoCom is a nontreaty, informal organization. That tells me that it's perhaps not as important as a treaty formal organization. I don't know if that's true. And you also say that a lot of the directives of CoCom are ignored by its members.

I suppose you look at the restrictions as heavier than the impediments being an informal organization and the rules being ignored by the members of CoCom. Is that your finding that——

Dr. ALLEN. Well, let me make a couple of comments, if I may, Mr. Lujan.

CoCom is really a remarkable organization. It stemmed from the aftermath of World War II and has resulted in a group of allied countries banding together in this informal organization because of this commonly perceived threat from the Soviet Union.

Mr. LUJAN. What does that mean? Excuse me. I have trouble with that business of non-treaty and informal as opposed to International Atomic Agency or those that I suppose are formal and treaty organizations.

Dr. ALLEN. Well, sir, I'm not the best one to tell you how it has developed and why it's remained that way. We do know that the countries in Europe do not respond well to the idea of making it into a formal treaty-balanced organization, and I think the thing that I really wanted to say is that the organization is remarkable in its positive effects. That is, it is banded together countries who see a common threat, to do something which is really quite unpleasant for them to do. That is, all other countries besides the United States regard the export as a right which their manufacturers have to be abridged only in extremely unusual circumstances.

So CoCom has caused these groups to come together to do something which they regard as abridgement of the normal rights of their manufacturing people.

Mr. LUJAN. Does that mean that they're not Government people, they're industry people that are in there to try to change these restrictions?

Dr. ALLEN. I'm not the best one to answer this. I think the witness that will follow us is really the most familiar person on CoCom matters.

It is true that in the past, although I believe they represent their Governments, they have in large measure come from the commercial and industrial sectors, and one of the things that the administration has done in recent years is to include, and encourage the allies to include, more defense people in their representation in the committee to ensure that defense interests are properly considered there, and that's been a positive action of recent years.

Mr. LUJAN. Your focus in where you traveled to and visited were Europe, Canada, Japan. I don't see that you made any trips into Latin America. Is there some particular reason for that?

Dr. ALLEN. No. We were attempting to—Brazil would have been a newly industrialized country of the sort which was considered for visiting, but we did not visit Brazil. But the countries that we did, included Hong Kong and Singapore, for example, Indonesia.

Mr. LUJAN. Why not?

Dr. ALLEN. No reason, sir.

Mr. ROE. Will the gentleman yield?

Mr. LUJAN. Yes.

Mr. ROE. The committee is concerned about this issue and our relationship to South America for obvious reasons. In your research work, did you get into relationships particularly with our South American neighbors?

Dr. ALLEN. Does anyone on the panel have any comment to make?

Mr. CHRISTIANSEN. No, we did not.

Is this on? Yes, I guess it is.

Mr. ROE. You have to pull them closer. It's just bad microphones. We'll try to improve that. In high tech we're not sure we can hear each other that well.

Mr. CHRISTIANSEN. We did not focus on Latin America. The principal focus was, of course, the more industrialized countries—the more heavily industrialized countries of Europe and of course of Asia, and Latin America still is not in that category—most of Latin America—so therefore our focus was not on Latin America.

Mr. ROE. I'm going to give the gentleman additional time. I think it's important to point out, however, that when you looked at the Pacific Rim and what's happening out there, apparently you concentrated—and correct me if I'm wrong—your overall analyses on the areas where the dynamics are taking place. But Dr. Allen also spoke to the issue, and eloquently so, that he was deeply concerned on developing nations—other areas in the world—because those are potential marketplaces for us. So I'm just a little puzzled why we didn't get into that South American———

Mr. CHRISTIANSEN. Well, the panel—a group from the panel did, of course, visit Southeast Asia and some of those countries.

I'd like to say something about CoCom a little bit, if I may, for one second here. The representatives at CoCom of other countries and the United States are Government officials. The other countries do have from time to time some industrial people assisting them in their deliberations, something the United States has not done, but the basic representation are Government people.

Mr. ROE. The gentleman from New Mexico.

Mr. LUJAN. Thank you, and to follow up on that Latin America, I thought that's what started this whole thing, because there were allegations that that's where the leaks were coming from, and that's why we started looking into this question, whether we ought to relax or strengthen our controls on exports. Isn't that what started it? and then we didn't———

Dr. ALLEN. There had been some diversion attempted to use Latin American destinations as a route for diversion, yes, sir.

Mr. LUJAN. Yes. And if that's the case, apparently we were looking only at those countries that we don't have a problem with and saying, well, we don't have a problem, so let's open it up wider, and we didn't look at the ones that were causing the problem, as to why those restrictions are necessary.

Mr. Olsen.

Mr. OLSEN. I think, as Dr. Allen has said, we would have liked to have also included Latin America in our survey and in our studies, but we were focusing primarily on those countries that play a major role in the export of manufactured goods and particularly technology and high technology, and the growth of the Pacific Rim nations, the newly industrialized countries, and that part of the world has been remarkable, extraordinary compared to that of South America, for example, in the development of manufacturing capability as well as their role in export of technology, and that's one of the reasons we focused particularly on the developing countries and the newly industrial countries of the Pacific.

Mr. LUJAN. Not to belabor the point, but if a certain section of the world—Latin America in this case—is perceived to be the threat to our national security, and you advocate trade as a part of a broadened conception of U.S. national security, you think we ought to tie the two together, and if that's the threat and we didn't look at it, that's a real shortcoming it seems like to me, and I don't mean to be critical. It seems to me like, when you make a study, you look at both sides of the problem, and it doesn't seem like that occurred here.

Mr. OLSEN. Well, Dr. Allen, I'm sure, will elaborate on this. But in our recommendations—in the panel's recommendations, we recommend in fact that the efforts which are now under way be made even more vigorous in obtaining a memorandum of understanding with non-CoCom countries—which would include of course South American countries—to strengthen controls in those parts of the world. We didn't not recognize the importance of extending our controls and making them stricter in those areas where there could be diversion.

Mr. LUJAN. One final question. You had three things that need to be done. I suppose to summarize it, is your recommendation that we don't need legislation but to strengthen the administration?

Dr. ALLEN. Our report was addressed primarily and hopefully to the administration in order that—because we believe that the recommendations that we made in general can be accomplished without legislation, yes, sir.

Mr. LUJAN. Thank you.

Thank you, Mr. Chairman.

Dr. ALLEN. May I ask Dr. Wallerstein to make a comment with regard to one of your earlier questions.

Mr. ROE. Of course.

Dr. Wallerstein.

Dr. WALLERSTEIN. Thank you.

Mr. Congressman, I just wanted to indicate that at the staff level we did indeed look at the Latin American countries, particularly Brazil and Mexico and some of the other industrializing countries of Latin America. It was impossible, due to resource constraints, for the delegations of the panel to travel beyond the countries that

were targeted, and, as Mr. Olsen indicated, those judgments were based on a determination of which represented the more immediate concerns about export—technology transfer.

I might also indicate that from my knowledge of the subject, I have seen no evidence that Latin America is really the leading problem. There have been some cases, as Dr. Allen indicated, where there have been re-exports—unfortunate—re-exports through Latin American countries.

But really the focus of the concern is on re-export through the newly industrializing countries of the Pacific Rim. Possibly Brazil would be included in that, but it really is not the main focus as far as I know.

Mr. ROE. Well, before I call on the distinguished gentleman from California, what I'd like to try to get into for the benefit of this committee is that the purpose of this hearing is not only to review your report, which, by the way, I find to be substantive. We're looking towards establishing a policy that's going to do a number of things without being redundant. I think one has to do, of course, with national security, which we all understand and respect.

The second point is, how do we get into a much more vigorous, dynamic era of trade, to be able to increase our productivity and the competitiveness of our country. So that the whole—we're not just—this Member is not just balancing on the point, what we should transfer to the Russians, what we shouldn't transfer to the Russians, and the whole bit, but where does it give us the leading edge on the basis of exploiting our technology, which is one of our major if not one of our key resources. So I want to focus on that, not just that we're rehashing and we're going to change some controls and so forth, and that's going to solve the problems. I see a much more dynamic issue involved here, than what has been expressed so far.

The Chair recognizes the very distinguished gentleman and our Member from California, the Honorable George Brown.

Mr. BROWN. Thank you, Mr. Chairman.

Dr. Allen, your report was in its release somewhat marred by an early leak, which is not uncommon around here, and I refer to the article in the Washington Post which dealt with the earlier draft prior to its actual release, but apparently the final draft hasn't changed that much.

The story indicates that the panel found that the export controls were costing the American economy $9 billion and almost 200,000 jobs a year and worsened relationships with allied nations without significantly improving national security.

Was that a part of the findings of the panel?

Dr. ALLEN. Yes, sir. We attempted to make an estimate of the cost of these controls, as I described in my opening statement, and those were the numbers that came out.

Mr. BROWN. And apparently you had run into substantial opposition to this point of view within the Defense Department, and our next distinguished witness after this panel is quoted as denouncing the report as being biased toward business. That's a rather unusual charge to be made by this administration. Are you sure you have a properly balanced panel and it doesn't include a bunch of left wingers or something like that?

Dr. ALLEN. As Dr. White explained, there was a very significant effort made to achieve an appropriate balance on the panel.

Mr. BROWN. And you're convinced that the defense aspects of this study were properly considered in a balanced way.

Dr. ALLEN. Well, I think that Dr. White and Dr. Press overlooked my incompetence in asking me to be Chair in order to assure that that balance did emphasize national security.

Mr. BROWN. It is also alleged in this story—and I'd like to have this come out on the record because we may want to question the next witness about it also—that the Pentagon stopped cooperating with the panel after holding three briefings and withheld payment of half of the $200,000 that it promised in order to finance the study. You're quoted as saying they just ceased communicating with the panel but that you'd gotten most of the information you needed anyway. Is that a correct statement of the situation?

Dr. ALLEN. Yes, sir. Well, I'm perhaps not the right one to explain, but when the Department of Defense originally expressed interest in the study, the responsibility was in the under secretary for defense research and engineering, and therefore the initial support to the panel and collaboration was established.

The responsibilities were later transferred to the newly formed Defense Technology Security Agency who made no secret of the fact that they did not think our panel was likely to come out with a particularly useful report, and therefore, whereas they were very cooperative in providing us substantial briefings on the method of their operation, following doing so they indicated that they did not see a need to communicate or support any further.

Mr. BROWN. Dr. Allen, I noted—I don't know whether it has any significance or not, and it doesn't impair your testimony, but you stopped at the middle of page 10, and you didn't include in your oral presentation the statement that I'd like to read to you.

> Although most of the necessary mechanisms appear to be in place, the U.S. policy process for national security export controls continues to lack proper direction and affirmative leadership at the highest level to balance both military security and economic vitality. In the absence of appropriate corrective measures, the current system of export controls will exact ever higher costs on both Western economic vitality and innovative capacity and on the military security of the United States and its allies.

You didn't withhold that statement because you've changed your mind?

Dr. ALLEN. No, sir; just in the interests of time.

Mr. BROWN. Do you feel that the administrative changes made as a result of this similar criticism in another area—lack of proper direction and affirmative leadership at the highest level with regard to certain other policies which has resulted in substantial changes in the National Security Council—do you think this may favorably change the situation that you've described in your report?

Dr. ALLEN. I've been led to understand, sir, that Mr. Carlucci does intend to conduct a review of the export control process, and therefore I am hopeful that that will be a constructive step.

Mr. BROWN. Thank you very much.

Mr. ROE. I thank the gentleman from California.

The Chair recognizes the distinguished lady from Rhode Island, Miss Schneider.

Miss SCHNEIDER. Thank you, Mr. Chairman.

I'd like to follow up a little bit on the line of questioning that my colleague, Mr. Brown, was pursuing, and I'm curious to know why you think the Department of Defense reacted not only so negatively to your report but negatively from the outset, before you even had the opportunity to issue the report.

Dr. ALLEN. I'm not the best person to answer that. I think you have a witness coming up who can answer it very eloquently.

Miss SCHNEIDER. All right. Well, moving right along, I'll ask you some simple questions. I have about four of them that basically would require a yes or no answer, and I'd like to try to squeeze them all in.

A number of these recommendations seem to parallel the recommendations coming from the Young Commission report, and I want to make sure that I'm accurate in making sure that they are similar. But one of the recommendations is that export controls should be streamlined by one-stop regulatory review. Is that possible, considering what we were talking about here?

Dr. ALLEN. Ours didn't use the term "one stop," but let me——

Miss SCHNEIDER. I realize that.

Dr. ALLEN [continuing]. Ask Mr. Christiansen to comment on that.

Mr. CHRISTIANSEN. Yes. I think from the point of view of the exporter that anything that can be done to streamline the process—the application process, the review process—and get approvals out more quickly is certainly desirable.

Miss SCHNEIDER. Well, one of the additional recommendations was to have electronic license application and common interagency data files—in other words, I guess, like an electronic bulletin board where you could have all of the information and regulatory licenses synthesized.

Mr. CHRISTIANSEN. Well, it certainly would be desirable.

Of course, the way the present situation is set up, it would be a fairly long time before that could be done.

Miss SCHNEIDER. The other thing I wanted to ask was about an expanded delegation of review authority to the Department of Commerce. Mr. Allen had mentioned that earlier in his remarks, but I wondered, how do you see that interaction between the Commerce Department and the Defense Department being improved?

Mr. CHRISTIANSEN. I think, as Dr. Allen has pointed out earlier in his statement, that we found that the Commerce Department has not been taking—has not been using all of the tools that they—that they have, and the Defense Department has moved in in some of these areas, and what we're asking for is a rebalance.

Miss SCHNEIDER. Yes. His comment earlier was that Defense had a de facto veto over Commerce and that we have the tendency to speak with several voices. How do you see that that can best be remedied?

Mr. CHRISTIANSEN. The panel's recommendation, of course, was to have the Office of the President, through the National Security Council, exert some balance in this situation, and hopefully the voice of Commerce would be strengthened on this and everything brought within the proper—more proper balance.

Miss SCHNEIDER. And, finally, I'd like to ask, considering these recommendations that you have put forward, do you have any kind of time frame during which you would like to see them implemented?

You had mentioned earlier in your statement that the situation is critical, we have to be more vigorous, we've got to run faster. What kind of time schedule do you see we should be imposing upon the administration and some of these recommended changes?

Mr. CHRISTIANSEN. I think that we have found ample evidence in the visit to Europe and the visit to the Orient that many companies—many foreign companies are specing out U.S. products, and so therefore there needs to be some action on that on the lower level items particularly, items which are competitively available throughout the world, and that should be done very quickly.

Miss SCHNEIDER. Well, evidently, in the last five years in the area of high-tech exports we have gone from a surplus of $7.5 billion now to a deficit of $8 billion and we've lost the market in seven out of ten of those areas where we had assumed to be number one. So it seems to me that in a five-year period we have had a reverse decline.

Is it your expectation that if we implement these recommendations that we might be able to see perhaps a turnaround in the next five years?

Mr. CHRISTIANSEN. I would be the last one to say that export controls were the heart of all these problems, they're not, but certainly they're contributory.

Mr. ROE. Will the gentlelady yield?

Miss SCHNEIDER. I'd be happy to yield, Mr. Chairman.

Mr. ROE. For the record, what we're trying to get at here is, from your experience and from your overview as a citizen, business person—whatever—applies for an export license, what's the average time frame? The time and space is a very important relationship here. Does it take six months on average? three months on average? a year on average? What does it take?

Let's soften this up. Many of my people come back and tell me, "Forget about it." The small or medium businessman says, "I'm not even going to try because you can't get through the labor, the paperwork, and it takes forever," and if we're dealing in a dynamic technology time—which we are—the question is, what does the process do?

Dr. Allen has said in his writings here, in his presentation, that there's a concern of, you know, Mike not telling Ike, everybody having different rules and regulations. We're talking about, what about the citizen? How long does it take, on average, do we know?

Mr. CHRISTIANSEN. If you're a small firm that does not have someone who is specialized in the process of export control and understands it very well, and you are filing license applications, and you don't know whether they're correct or incorrect and so forth, and you get delays, you get rejections, you get "Returned without action for more information," and so forth, it can take a long time. You can take several months on that sort of thing.

On the other hand, if you are experienced and you are dealing in West-West trade with reputable countries, you shouldn't take more than two or three weeks to get an approval for most items.

Mr. ROE. If the gentlelady would yield further.

Miss SCHNEIDER. Sure.

Mr. ROE. It seems to me what we're looking at here and what we're trying to extract out of these hearings today is; how do we get the competitive edge, how do we become competitive, and is there a process?

You seem to be concerned that the process is not coordinated. There's a difference of opinion. We respect and understand that. All that notwithstanding, it seems to me that if we once ultimately decide that we're going to decide—what would you say?—modernize—for the want of a better phraseology—our methodology of dealing with the Pacific Rim, South America, any place else, we ought to have some mechanism that's clear and concise so that we can get the dynamics into the system. Now that's where I'm trying to come from; I believe that's where the gentlelady from Rhode Island is coming from. Does that need reform?

If I'm a middle-sized businessman, I can't go out and hire—I can't pay the kind of money it requires to get people to help me out to get on top of the list. It seems to me that's an impediment to what we're trying to achieve.

Mr. CHRISTIANSEN. I have a threefold answer to this. The first step is to—not necessarily in order, but anyhow there's three steps. One is to take a look at a list of controls and get rid of those that don't make any sense and that people can't understand—all right. Develop a list people can appreciate, understand, and work with. That's true outside the country as well as in the country—OK?

The second step—and, again, this is not in order—is to get rid of the irritants we have abroad that are losing business for U.S. businessmen. That is, the re-export controls and some of the egregious stuff like that which causes all kinds of problems. All right.

The third step is to simplify and straighten out the regulations. The regulations right now are close to 700 pages, and they are very complicated. The question is, do people really understand 700 pages, and if you don't understand it and you can't handle it, what good are you doing?

If some—you'll pardon the expression—some warder may be happy that everything is written in beautiful form, but if the troops in the field can't understand it, you're not accomplishing very much, and this is the point of view that is hardly ever brought to bear: What is it that people can understand and work with? I'm talking about small and medium-sized companies, I'm not talking about some large firm that can hire an expert that spends 100 percent of his time doing it.

Mr. ROE. The gentlelady from Rhode Island.

Miss SCHNEIDER. Following up on that, I think at least we Members here know that anybody can have a great idea, and many studied groups have made recommendations, but what really counts are the folks that can take those ideas and those recommendations and turn them into action.

So I think we're trying to grapple for some kind of tangible technique or tool in which to turn these positive recommendations into results, and your three recommendations certainly seem to be good ones.

But one of the things I'm wondering is, is there anyone that has a list of some of those proscribed items that maybe we should drop, that are low-tech, that are currently being included in the whole CoCom discussions now? Is there such a list drawn up? Did your panel put that together?

Mr. CHRISTIANSEN. No, we did not focus on the specific controls.

Miss SCHNEIDER. So that is yet a piece of work somebody would have to do.

Mr. CHRISTIANSEN. But there are a number of technical advisory committees that advise the U.S. Government on these things. Unfortunately, many of their recommendations are—well, they're made, but they're not necessarily carried out. So, therefore, I think one recommendation that I personally would make is that some further attention be given to these technical advisory committees.

Miss SCHNEIDER. OK. And the other thing is—yes.

Ms. GREENSTEIN. If I might add one point on your request for whether there is a list that would give some guidance about what could be effectively decontrolled now.

Miss SCHNEIDER. Yes.

Ms. GREENSTEIN. One possible approach to that would be to look at the list that is now unilaterally controlled for national security reasons, because that is clearly a list of commodities which the rest of the CoCom nations are freely exporting and which American exporters may export only after receipt of a license, and so there it seems as though you could free up a group of exports with essentially no national security cost.

Miss SCHNEIDER. Great. Thank you.

My time is up, Mr. Chairman. Thank you very much.

Mr. ROE. I thank the gentlelady.

The Chair recognizes the distinguished gentleman from New York, Mr. Boehlert.

Mr. BOEHLERT. Thank you, Mr. Chairman.

Dr. Allen, at what level in the administration was your report accepted and discussed?

Dr. ALLEN. Of course it's a little bit embarrassing in the sense that we have not actually published our report yet. It will be published in ten days. The premature release of it has caused the awkwardness of having distributed a pre-publication version which has been widely distributed to the agencies of Government.

We are aware that the Department of Commerce has reviewed it and made comments on it. I am aware that the responsible person in State has looked at it and reviewed it and that the National Security Council staff has looked at it.

Mr. BOEHLERT. But I'm trying to get at the level, Dr. Allen. Middle level? Do we have the attention of those at the highest level?

Following on on what my colleague, Mr. Brown of California, had said referring to page 10, we need the attention at the highest level. I'm wondering what levels within State, Commerce, and Defense reviewed the report, and, more importantly, at what level were you discussing the report?

Dr. ALLEN. Well, I think the process is still under way, but it is my belief that the appropriately high levels within those organizations have paid attention to it, that is, and I think that even

though I kind of deplore the press attention that it's gotten because it's been garbled and misstated some of the aspects of it, it nevertheless has had the effect of calling officials' attention to the report early in the process.

Mr. BOEHLERT. Do you think, Dr. Allen, that the Defense Department is united in the position that is being credited to it?

Dr. ALLEN. Sir, I don't know.

Mr. BOEHLERT. OK.

Let me ask you this. Had not the report been leaked, would you have made any changes, do you think, in the final version? Are you satisfied with the final version even though there have been——

Dr. ALLEN. Well, the actual version that was leaked was edited—I mean the final report is somewhat different than that in editing. Those edits are not of great substance.

Mr. BOEHLERT. All right. So it's essentially the report that you want to issue.

Dr. ALLEN. Yes, sir.

Mr. BOEHLERT. Dr. Allen, you've been a player on the inside at the very highest level. Do you think there's any hope that we can get Commerce, as Congress would like, to be the lead agency in this very sensitive issue with the full cooperation and support and input from the Department of State and Department of Defense?

Dr. ALLEN. Well, you've asked for quite a bit there, sir.

Mr. BOEHLERT. I know; I intended to.

Dr. ALLEN. I think there are a few things that can be said. I think that with the instigation of the aggressive efforts of Defense the Department of Commerce has improved its procedures and mechanization and license review, and it seems to me that within the last year they have made substantial progress, and that's commendable.

I think there still are questions as to the ability of the Department of Commerce to represent itself adequately in the levels of policy review that are really required, and that does require some further attention by the Department of Commerce.

The Department of Defense clearly has as its predominant view the national security aspects of this and is very effective in its advocacy of those particular considerations in the process.

The departments have not worked well together, in my view, and it will require a leadership above the departments to ensure that they do work well together in the future.

Mr. BOEHLERT. You know, wherever I go, whether it's home, in talking to my businessmen who are really discouraged, they say that our present system has a disincentive to export, and when we're talking about exports and we're talking about national security, I happen to think that the $175 billion projected trade deficit which is forecast to go higher rather than lower poses a great threat to our national security. But the businessmen tell us that we provide disincentives for them to export.

Then I'm privileged to represent our country at a meeting of the North Atlantic Assembly, and our best friends, our allies, tell us that what we're doing here is straining rather than strengthening our relationship. It's a cause for great concern.

So I want to commend you and your panel for what you're doing. I hope that there will be some tenacity on the part of all of you to

work cooperatively with us to get the result we all want for America.

Thank you very much.

Mr. ROE. The Chair recognizes the distinguished gentleman from Florida, Mr. MacKay.

Mr. MACKAY. Dr. Allen, I see this as sort of an issue, sort of the ultimate deregulation issue, in which you all are saying, in essence, unless the Department of Defense deregulates high technology in America our own allies are going to deregulate it by designing around American products and the world is going to go on without us, and it seems to me what you are saying is for us to have a sensible policy, the National Security Council has got to be involved.

I mean I interpret your report as sort of saying Commerce never is going to be an adequate advocate against DOD just because of the way the world works, and that's what the National Security Council was supposed to do, was to balance the voices of these agencies at the White House level. So it's never going to make sense unless the National Security Council starts doing what it was supposed to do, and it's never going to make sense unless we start committing ourselves to CoCom. Is that an adequate expression of what you're saying?

Dr. ALLEN. Yes, sir, many aspects of it. I would like to caution against the analogy with deregulation. That is, it's not our intent—it's not the intent of our report to advocate a liberalization of trade.

Mr. MACKAY. No, but I meant it in this way. Excuse me for interrupting you. Our regulations, which purport to prohibit reexport, have in effect said we're going to try to regulate our allies, and our allies have said, no, I'll tell you what we'll do, we'll deregulate it all.

Dr. ALLEN. Yes, sir.

Mr. MACKAY. Is that not the case?

Dr. ALLEN. We believe it is essential to obtain improvement in the CoCom controls of their own exports and then rely upon that rather than re-export controls.

Mr. MACKAY. All right. Thank you very much.

Mr. ROE. The Chair recognizes the gentleman from Iowa, Mr. Nagle.

Mr. NAGLE. Dr. Allen, let me first congratulate you on your opening statement, not that you need congratulations from me, but I think it's particularly concise and well thought out.

Your report, if I understand your testimony, indicates that you do not at this point see the need for legislation. Is that correct?

Dr. ALLEN. Sir, we constructed our report in the hope that it would be useful to the administration, and we believe that most of what we recommended could be accomplished without legislation. However, we are well aware that the administration and the Congress are both working on trade legislation this year, and therefore we hope that the report might be useful there as well.

Mr. NAGLE. But, you know, coming to the bottom line, if the administration is hostile to the report, we, in essence, in 1988 will be the same place we were in 1986 when you made the study. Is that correct?

Dr. ALLEN. Yes, sir, but I don't believe the administration is hostile to the report. I think there are various elements within the administration which disagree with one or more of our recommendations, but I think "hostility" is not—is, I hope, not the right word.

Mr. NAGLE. But if they decide not to implement the report, then we're going to be right where we are today. Would that be fair?

Dr. ALLEN. Yes, sir, it is. However, I am, again, encouraged to note that the President, in the data he submitted supporting his State of the Union address, did include a number of factors relating to trade which are coincident with our recommendations.

Mr. NAGLE. Did you come across—and this is just more a question of curiosity—did you come across any reasons or insights as to why the Department of Commerce more or less acquiesced in the DOD's assumption of power in this area?

Dr. ALLEN. Sir, my understanding of that is simply that when this administration came in, the national security concerns brought about by diversion and loss of control were a key element of policy, and Defense was the one most concerned, and therefore they applied the most effort and the most talent to vigorously addressing that shortcoming.

Mr. NAGLE. OK.

Finally, in reviewing, I think you recommended that the policies be reviewed by the National Security Council. Does the National Security Council have on its staff currently the expertise to make these reviews?

Dr. ALLEN. There are several people on the staff who are very knowledgeable in this area. I would imagine that if they undertake a serious review they will augment that capability.

Mr. NAGLE. Thank you very much.

Mr. ROE. The Chair recognizes the distinguished gentleman from Illinois, Mr. Fawell.

Mr. FAWELL. Thank you, Mr. Chairman.

I guess what I have is not so much a question as a comment. Recently I have been, I guess, rereading Alvin Toffler's book "The Third Wave of the Economy," where he points out, quite correctly, that in a free enterprise system, where there is a gift of freedom, that you have any such country with those attributes being able to compete very well in what is an explosion of information in science, and technology, and communication, and transportation, that we're leaving the industrial era, like it or not, as we left the agricultural area.

With that as a backdrop—and I commend what you're attempting to do here because of course you're attempting to balance security with still maintaining competitiveness, whereas competitiveness demands, it seems to me, that freedom, entrepreneurial spirit, and that ability to have the invigoration that comes from that.

It seems to me that you're talking about expanding CoCom and dropping the—no re-export controls, trying to bring the developing nations who are, as we diffuse, it seems, our technology, they're picking it up and they're going ahead of us, I think, if not now, very shortly, especially inasmuch as we put so much of our R&D into militarily related which is wrapped up in the security.

I'm probably confusing everyone, but could you comment upon—aren't you, in effect, just putting up a battle here that eventually

you're going to lose, at least insofar as the dual use technologies are concerned? I don't know how, in the final analysis, we're going to be able to control that area, considering what the future has to offer us in this explosion of information, science and technology, communications and transportation; I don't know how it can be done without killing, basically, a good portion of our high technology economy.

Dr. ALLEN. Yes, sir. I think your point's very good, and what it says to us is that the attention must be focused, narrowed, to the most critical items, because we can succeed only if we pay our attention to those items that really matter and obtain the cooperation of our allies in doing so, and that leads us to believe that the lower technology items on the list should be taken off, the list should be reduced, and we should work then very hard on the very difficult chore of achieving improvement in the other countries with whom we can cooperate.

Mr. ROE. Will the gentleman yield?

Mr. FAWELL. Yes, I'll be glad to yield.

Mr. ROE. For clarification—and I think he's hitting on a very good point. I see a center, focal point here. It's not the idea—correct me if I'm wrong—it's not the idea that we want to give away our high-tech secrets to our enemies who would be avowed to destroy us. What we're saying is, what kind of ground do we find to be able to exploit our technology in a way to keep us highly competitive in the world and, equally as important, in cooperation with our allies?

I mean it's not the idea whether or not we can do this or not. The idea is to bring forth the basic programming which you try to establish here, that it can strengthen America, not necessarily weaken her. I think that's a very important point to make.

Dr. ALLEN. Yes, sir; I agree completely.

Mr. OLSEN. I'd just like to join in the answer to this particular point. Of course competitiveness and security are mutual; I mean, they're not opposing forces; and then that, in fact, is our concern, is that as we lose competitiveness, and particularly as we lose and may damage our vitality in technology and our high-tech area to the rest of the world, that we also then tend to lose control over the dispersion of technology throughout the world also.

It's very important for us to listen carefully to what our allies say in CoCom, and that was one of the things that we have in our report that we drew on as we traveled abroad, to hear what our allies were saying.

When you have a law which people don't agree with and don't regard well, that law becomes very difficult to enforce, and in this particular case we're talking about regulations and laws which would be extraterritorial when they are extended to other countries, and when those other countries disagree with the implementation and don't believe that they're as effective, and we see technology being dispersed around the world, then we should actually look at this not only from the standpoint of the competitiveness of our industry but also as a threat to our security, because it makes it more difficult for us to enforce our security and our export controls when we find our allies abroad, who do agree with us that it's necessary for us to prevent technology from flowing to the Soviets

but disagree with the way in which we're doing it and believe that we're not doing it as efficiently as we could.

It's very important for us, as technology is growing rapidly around the world, to make the necessary changes to make those export laws more effective, and, at the same time, they will, by necessity, have the effect of improving our competitiveness.

Mr. ROE. The gentleman from Illinois.

Mr. FAWELL. Well, I agree with you. I commend you for tackling this difficult question, because it could be misunderstood by those who very much favor, obviously, as we all do—we want security, but when you overemphasize it to the extreme, you have to hurt the economy. The Soviet Union is, I believe, in the words of Alvin Toffler, a beached whale in this new—this science and technology explosive era in which we are now in—explosion of information—they can't give information in that country.

So they're unable, because of their high security, lack of information flow, et cetera, to be able to compete in this new, explosive economy in which we are in. We certainly are not in that position whatsoever, but to the degree that we inculcate extremist views in regard to security we certainly do cripple our competitiveness.

Well, I think I've made my point, and I appreciate your coming.

Mr. ROE. I thank the gentleman from Illinois.

Do you want to ask the gentleman to yield some time to you?

Mr. MCMILLEN. Yes, Mr. Chairman.

Mr. ROE. Mr. Fawell from Illinois.

Mr. FAWELL. Yes, certainly. Go ahead. I think I've used up my time.

Mr. MCMILLEN. One of the things, I suppose, in terms of the thrust of this hearing, is sometimes we have a very narrow interpretation of national security, and I think we have seen a metamorphosis along this line that if we focus so narrowly on these concerns and don't look downstream and see what's happening with our tremendous dependence on foreign capital, our trillion-dollar foreign investment in this country, and our situation being a debtor nation, a sizable debtor nation for the first time since, I believe, 1940, these things are as much an impediment to our long-term national security as anything.

I think what moved me most was the Farewell papers—that even with stringent export controls the Soviets were basically able to get what they wanted—and so I commend you for moving in this direction, because what we really need is a more pro-active approach in terms of our own technology, in terms of our own competitiveness as a nation, and these things have largely been ineffectual, is basically the summary that I have drawn from your report.

Mr. ROE. The Chair recognizes the gentleman from Texas, Mr. Hall.

Mr. HALL. Thank you, Mr. Chairman, and I apologize for having left, and I apologize if I ask questions that have already been asked during my absence.

But I note that you estimated that roughly 40 percent of all of our exports of manufactures were subject to Government review. Not having been in Congress all my life, but having been in business and dealing with Japanese and others in the Orient on the sale of technical assistance, I found back then that the authority of

the Department of Commerce would ebb and flow with the times. I also found that the Red countries depended on almost something as whimsical as whom we'd played ping-pong with recently and today—don't you think it also ebbs and flows with executive leadership? I find that.

My question—what I'm leading into—is, what suggestions do you have to a committee who are seeking for international scientific cooperation to lessen the stringency of our supply without weakening our national defense? I guess that's the common sense question.

Also, do you have examples in your study and in the backup to this very fine report that you've given to us here of some of the examples of the irritation of our Western allies, what caused it, and specific examples of that?

Dr. ALLEN. I think the answer to the first part of your question is that we believe that the most important recommendation of our report is the recognition that the diffusion of technological manufacturing capability around the world necessitates a multinational approach to the problem and that, because the United States can control so few items by itself, it must seek the control cooperation of others, and that since we recognize that we really have no choice but to enter into a common community of controls, and we're not so naive as to misunderstand that that's very difficult to do and that indeed the administration has been striving to do that, but, in our view, it must be more pragmatically approached, and where that cooperation cannot be achieved one cannot control the items.

Now with regard to the second as examples of irritation, I don't have them at my fingertips. There are some. Perhaps my colleagues have some. But what we have seen is the unpredictability, and the lack of assurance of the ability to re-export equipments which they manufacture that contain U.S. components has caused companies—and these can be identified—to issue letters to their suppliers saying that they wish a policy of not using U.S. components, so that they won't get tangled up in the U.S. re-export control provisions, and that, we believe, is alarming and will over the next ten years exact a larger price.

Now maybe my colleagues would like to comment further.

Mr. CHRISTIANSEN. I was a member of the panel's study group that went to Europe, and we visited six nations there. Every place we went, one of the questions we asked basically was this business of people not buying U.S. products because of export controls, and we found a lot of people saying yes, this was happening. Now hardly anybody would come forward and say this publicly; this was in closed sessions, obviously.

Now since that time there has been some evidence. A British firm, for example, has made quite a point of this, that if U.S. export controls and re-export controls are involved, they don't intend to buy United States, they buy foreign first; that's their deal. The chairman of the board of the Phillips Corporation has made some statements in the last year or so on this.

The U.S. Embassy people in Germany have conducted a study in which they have found some number of German firms have expressed an interest in buying not United States but other areas to avoid this problem.

Some of the trade associations have, in the last month or two, been conducting some studies along this line, and they are developing some information of this type. It's tough to get this information. People don't like to be put on the spot.

Mr. HALL. Let's come back to the domestic situation here. Say I'm a domestic producer of some type—all-field equipment, no computer technology, no secrecy, no military thrust to it. I go to the Department of Commerce, and I get their approval, and then I enter into the production, maybe take some substantial payment on, say, a $25 million contract and produce it, and then I find right at the break of dawn when I'm about to deliver and collect—and this is not unusual—the Department of State cancels it.

How do we encourage our people to take those steps and yet be subject to those constraints?

Mr. CHRISTIANSEN. Are you talking about the oil and gas controls that were just recently——

Mr. HALL. No, not particularly that. I know of a situation involving that, but I'm speaking generally.

Mr. CHRISTIANSEN. I think you're probably talking more on the foreign policy side—is that correct?—than on the national security side of controls.

Mr. HALL. Well, I don't know if it's foreign policy or not. You know, the pattern is to come and make your presentation to the Department of Commerce, the entity historically that's had control over that, and you enter into the contract, you produce, you have about 300 people employed, and then at the break of day, when you're about to deliver and to get the remainder of your contract, you're told that it can't happen, when France, Korea, and others are standing by to carry out your—the contract that you've won.

Mr. CHRISTIANSEN. This has been most egregious in the foreign policy area, and it has been a problem, and the Export Administration Act does have a number of features in it that would require the administration to address the competitive effects and other things.

Unfortunately, some of these controls have been carried out under IEEPA, the International Economic—what is it?—Emergency Powers Act, which does have those features in it, and so therefore that has not been part of the equation.

But you're absolutely right, this does cause concerns.

Mr. HALL. I thank you, Mr. Chairman.

Mr. ROE. I thank the gentleman from Texas.

Before we call on our next colleague here, we're running into a problem, and the problem we're running into—that this is an extraordinarily important issue, and there's considerable additional questions that are going to be propounded to the sitting council, or the sitting witnesses, rather.

Having said that, Mr. Perle, I understand you have a luncheon appointment at the White House. Is that correct? I don't know whether we're going to get to you before you have to go to your luncheon. What the Chair's direction would be, that we would convene again this afternoon, or we'll reschedule. Now I'm trying to accommodate your situation, Mr. Perle.

Mr. PERLE. I'm checking my afternoon schedule.

Dr. ALLEN. Of course we'll be happy to provide answers to questions in writing.

Mr. ROE. It's not quite the same. We're going to ask that, but it's not quite the same, as I'm sure you can appreciate. That's why we want to keep you here a while.

Mr. PERLE. I think I would prefer—if you can do it—rescheduling.

Mr. ROE. On rescheduling? All right. That will be fair, and it will be within the immediate future, because it's very important that we follow up with this continuity. So if that's convenient for you, we'll continue with this panel and we'll be back in touch with you today to reschedule according to your time. Is that all right? I thank you very much.

Mr. PERLE. Thank you, Mr. Chairman.

Mr. ROE. The Chair recognizes the distinguished gentleman from California, Mr. Mineta.

Mr. MINETA. Thank you very much, Mr. Chairman, and, Dr. Allen. We always, whenever we visit JPL, appreciate your hospitality there.

If you could, quickly review for me the present process for the decontrolling of products and at what rate annually would you guess that the list is presently being reduced.

Dr. ALLEN. Sir, I'm going to ask Mr. Christiansen to address that in more detail.

By the way, we're delighted to have you at JPL any time you can come; I hope you'll come more often.

But a part of our report is to say that the process of decontrol doesn't really exist and it doesn't occur well, and that's a major element of our concern. But Mr. Christiansen can provide a more competent answer.

Mr. MINETA. Before Mr. Christiansen starts, let me then add this part as a follow-up to that question, and that is, as you state, Dr. Allen, your report calls for a more narrowly drawn list of controlled products. So how do you recommend that we achieve this in a practical, orderly manner? Do we mandate a percentage reduction of the list on an annual basis? Can we impose sunset clauses on products in order to ensure that they are taken off the list as those products become more readily available or a lower level of technology is taken off the list? Or is there some more rational way to achieve a pared down, more manageable list?

Mr. CHRISTIANSEN. The panel did make a couple of suggestions in this area.

Let me first of all preface my remarks. I think the panel felt basically that there was not sufficient attention devoted within the administration and within CoCom to the withdrawal of items, that somehow the attention was directed more—the focus was more on adding items, or reconstructing items, or making them better, tighter, or something like that, and when it came down to the decontrol area everybody was tired and lost interest and went home basically, and the question is, what could you possibly suggest that would cause at least some portion of the United States and CoCom effort to look on the lower side in getting rid of it, sweeping out the stuff that really isn't terribly essential—the obsolete, obsolescent activities.

The suggestion the panel came up with is a very simple one. It's in—I forget which part of the recommendations, but it's in there. There is a certain category of products which the member countries of CoCom can approve to the Soviet Union on their own hook, without going to CoCom to get multilateral blessing. It's been estimated that those items represent something like a third of U.S.-manufactured exports. That is the lowest level of control.

Now wouldn't it be possible, for example, at a CoCom list review to say that those items should be decontrolled unless somebody makes, in my view, a de novo case for retention and everybody agrees? This is the lowest level of control. Now if that was done consistently over a period of years, we'd sweep out this lower level stuff and just keep focus on the higher level. Now that would be one approach.

Another approach, which is one that I've thought about—it's not in the panel report—how about having it so that some small percentage of time—10, 15, 20 percent of the time—at CoCom in the United States is devoted to taking things off, not putting things on—something like that?

Within the United States here, we have a number of vehicles that could be used to greater effect to focus on this business of items on the list. One is the foreign availability requirements. There is a very substantial part of the act devoted to addressing foreign availability. Again, this seems to be bogged down in the bureaucratic situation between basically the Commerce Department and the Defense Department.

Another one is to review, for example, U.S. unilateral controls—face up to the fact that maybe those should all be reviewed and carefully rejustified—and I think in that process you might find some that really—don't really stand up today. That hasn't been done for some time.

Another example would be, we have technical advisory committees that function as advisors to the U.S. Government. These are business people. Most people on these committees feel that their advice is not paid much attention to. Why is that the case? Perhaps it should be. Maybe we should strengthen the advice of the technical advisory committees.

Those are the sort of things that might be done.

Mr. MINETA. Mr. Christiansen, even with those suggestions though, given the executive order that delegates to the Department of Defense the ability to review—even if you did all that—doesn't that have a dampening effect on the whole process?

Mr. CHRISTIANSEN. Well, yes, I suppose so. There's a question in people's minds about whether the Defense Department review adds an appreciable amount to the equation, and I think the GAO has looked into that and is currently looking into this again. But yes, the more people that are involved, it certainly gets more complicated.

Mr. MINETA. Do I have time for one small question, or another question, Mr. Chairman?

Mr. ROE. You can have the time for one more question.

Mr. MINETA. Thank you, sir.

Again, Dr. Allen, the NAS report indicates that $500 million is spent by companies for administrative costs that are associated

with ongoing export control administration compliance. Now this is a staggering number and certainly is a strong indicator of the complexity of the licensing process and the need for companies, large and small, to develop expensive, costly expertise. That $500 million figure doesn't even include any special costs that are due to exceptional licensing problems where special expertise is required.

Now do you see this staggering expenditure as a drain on other, more productive use of capital, such as R&D costs for enhanced innovation and new generation of products?

Dr. ALLEN. Yes, sir, I do. But even more than that, I think the part that alarmed many of us on the panel the most is the point that was made earlier. The small, start-up entrepreneurial firm, which has been characteristic of so much of the explosion in technology and rapid technology development recently, is particularly disadvantaged. That expense cannot be borne by them. They end up finding it very difficult to understand the system, they find it too expensive to hire the counsel in Washington which is needed to pursue the license request properly, and the system is too complicated and too difficult to encourage them to export. So they are selectively discouraged from emphasizing export as a part of their strategic plan.

Mr. MINETA. And given that then, how do you feel about what's in the President's budget this year about charging an export licensing processing fee of some kind, of roughly $50 or so per application?

Dr. ALLEN. Sir, I have no particular judgment on that. I think that's a small part of the total—would be a small part of the total cost. Again, perhaps one of my business associates would—one of my associates who is in business.

Mr. CHRISTIANSEN. My feeling basically is, that would discourage—very, very definitely discourage the small and medium-sized businesses. Many applications are for small dollar amounts, very small dollar amounts, and to have the fee which would be larger than the amount you're trying to license doesn't make any sense at all, and I guess the next step would be to have the Government charge us for doing our income tax returns.

Mr. MINETA. Thank you very much.

Mr. ROE. The Chair recognizes the distinguished gentleman from Louisiana, Mr. Hayes.

Mr. HAYES. First of all, I want to thank you very much for having improved technology in that my copy of the report was delivered. It was surrounded by a few advertisements and a couple of other headlines, but it was awfully nice to get it promptly and thrown right there in the driveway.

In my area, the calls that I get involve mostly oil field equipment, because I represent a district that is certainly not, by anyone's description, a Silicon Valley. But one of the comments that I keep getting referred back to me is one that's philosophical, and that being that if you make applications involving any kind of oil field equipment, that the people you apply to don't understand the equipment, so their natural tendency is to say no; once there's any question on their own competence and background, immediately the answer is no. And in looking over the report, I wonder if you, Dr. Allen, or one of your distinguished members would just com-

ment on maybe some of the philosophical changes we're going to have to in some way implement as well as some of the suggestions that can be carried out through legislative or regulatory correction.

Dr. ALLEN. Sir, I think the point you make is a very serious one. Obviously, you're aware that it applies not only to equipment, we're also aware that it applies in the more sophisticated, really very high tech items that are at issue here today.

The Government finds it very difficult to keep on its staff, particularly in Commerce, the appropriate technical expertise to judge these licenses, and I think it is a matter that needs to be considered carefully to improve their ability to obtain the appropriate people and to retain them in these jobs. They do not have the up-to-date engineering expertise that's necessary.

Did you want to comment?

Ms. GREENSTEIN. That point, I think, also led us to be quite seriously concerned about tendencies within the agencies to put export control issues in a narrower and narrower bureaucratic home and divorce the export control decision making from those areas in the agency that have the kinds of state-of-the-art technical expertise.

So I think that leads to—whether or not you judge that applications should go to the Defense Department, if they do go there, the judgments about technical—the technical parameters should clearly get the input of the people in the Defense Department who worry about the state-of-the-art technology available to the Defense Department and not people who are just worried about control.

Mr. HAYES. Hopefully our technology will always move quicker than our bureaucracy. But one of the concerns, and at least my second and my only other question, is in the implementation. Assuming that tomorrow just somehow we implemented all of your suggestions, what is the best way, once we make some improvement, to keep that improvement ongoing. What's the best feed system from business from those who are watching technology change and progress, to let Government react to it as quickly as it should? What do we do in an ongoing process?

Dr. ALLEN. The Government has these mechanisms. The problem we observe is, they're not using them effectively. There are technical advisory committees which contain representatives from the technical industries; there are groups called TWIGS, and I've forgotten what that stands for, but, again, a working group which is managed through a Defense element which provides technical expertise into the items that should be controlled; there's the President's Export Council which contains a number of subcommittees and brings a great deal of expertise in to be called on at the level of the President and his advisors; and these do contain the appropriate experts. The problem is that they're not listened to as well as they should.

So our main recommendation is to use the mechanisms that exist more effectively and more energetically.

Mr. HAYES. Thank you very much.

Thank you, Mr. Chairman.

Mr. ROE. I thank the gentleman.

The Chair recognizes the distinguished gentleman from California, Mr. Konnyu.

Mr. KONNYU. Thank you, Mr. Chairman.

Representing Silicon Valley, obviously this report is, to my constituents, and of course to Mr. Christiansen's firm, is a very important one. Clearly, the tremendous failures in terms of performance by the Federal Government in allowing export standards is very evident in my valley. So I'd like to ask Dr. Allen two—by citing two specific examples, to see what your report and your panel would recommend in terms of action.

In discussing this specific problem with the presence of two corporations—Amdahl and National Semiconductor—they cited—each cited a specific example.

In the case of National Semi, they had a Japanese computer which they wanted to export to their Singapore subsidiary, and it took them six months to get appropriate clearance. Yet if that Singapore subsidiary would have wanted to buy it directly from the Japanese firm that made that same computer that was at National Semiconductor in Santa Clara, California—a company shared with Congressman Mineta and I—due to their various plant locations—they could have gotten that computer they delivered in something like less than 30 days.

Now in that first example, what would your report recommend as a change to correct this problem?

Dr. ALLEN. The whole theme of our report is to say that those kinds of examples simply indicate that for the U.S. to have a more stricter system and unilateral controls, more unilateral controls than do its CoCom allies, is simply not effective and for exactly the reasons that you're saying.

If we can't control the object because we have a monopoly on it—and obviously in this case we did not—then it is not useful to have these separate layers of control and review.

So the recommendation is, very clearly, to reach the agreement with—in this case, with the Japanese, as well as we can on what the restrictions of the export of that level of technology should be, but then once that's agreed to, then live with it in a common fashion.

Mr. KONNYU. OK. Thank you.

Now the second element, or the second example is, Amdahl Corporation, which makes, of course, medium to large computers. Now here it's a different situation. They are competing, I believe, with Nixdorf, but I wouldn't want to be quoted on that for sure—with another computer manufacturer to deliver a computer to Venezuela, and the Venezuelan firm wanted a 30-day delivery and installation. It's a standard computer that Amdahl exports on a regular basis. But because they couldn't get—in this case the issue was timing—they couldn't get a quick enough export license for something they've exported time and time again in prior situations to other firms, the Nixdorf computer went out.

Is there something in your report that recommends the issue of correcting a timing problem?

Dr. ALLEN. Well, perhaps, again, one of my colleagues would like to comment further. But in general our recommendation is, the process is too complicated, it is difficult to understand, and it takes too much time, and it needs to be simplified, and streamlined, and automated, and speeded up. All those things are just absolutely essential.

Mr. KONNYU. OK.

Yes.

Mr. CHRISTIANSEN. We did not focus on the fine structure that you're bringing up here, but if we had, I'm sure that this would have—we would have had some recommendations.

For example, in the first case you mentioned, what happens when a foreign product comes into the United States is, in terms of export control, it takes on a U.S. identity even though it's a foreign product, and therefore it has to go through the entire U.S. system, and some people have said, well, if it can be supplied from one friendly country—say a CoCom country—to a friendly destination, then the U.S. should not have any impediments in this greater than that would have occurred from coming—in your case, from Japan to Singapore. Now how you do that is something else again, but this would be a goal.

Mr. KONNYU. Mr. Olsen.

Mr. OLSEN. It is, of course, important any time you have controls to have what is called generally a level playing field, and there is not a level playing field in U.S. export controls as they are executed throughout the world and throughout CoCom, and when you have examples occur such as you've illustrated, you unwittingly create significant incentive and encouragement to competitors abroad to become the suppliers, and particularly in the computer area in the instruments you mentioned, foreign availability is pervasive, and so it isn't as if we have a monopoly on that and that we therefore should control it and prevent its dispersion throughout the world, it's available throughout the world, and when you have an uneven application of controls in this fashion, you create these incentives for competitors to take advantage, and of course from the standpoint of our security controls over time, you will also tend to enhance the development of industries abroad, manufacturing capabilities, and more important than losing control over products is to lose control over manufacturing capabilities, and so we are unwittingly enhancing the development of technology outside of our sovereign jurisdiction, which does not enhance our security.

Mr. KONNYU. Mr. Chairman, if I may close by just a very quick—Mr. Chairman, therefore, because of what we've just heard and what I've just tried to illustrate, I think that we need to, in addition to all the other recommendations, focus on possible recommendations as to the need for objective policy with specified standards on export licensing that are not subjective but rather objective in nature so quick decisions can be made, that there ought to be put on the Department of Commerce time standards in which they have to perform, that the consumer, the exporting company, can expect them to perform in, and that in standard export items such as the computer that I illustrated in the second example, that we need to have pre-approval authority so that they can automatically export things that can indeed be exported so that the issue will not be re- and re- and re-visited again and again and again.

Thank you very much, Mr. Chairman.

Mr. ROE. I thank the gentleman.

The Chair recognizes the distinguished gentlelady from Maryland, Mrs. Morella.

Mrs. MORELLA. Thank you, Mr. Chairman.

I congratulate the committee on the report with such provocative recommendations. I'm also pleased that you've got a representative on the panel who is from the district that I represent in Montgomery County, Maryland.

But I was curious about whether or not the agencies that you comment on in your recommendations—Defense, Security Council, Commerce—were they able to review the recommendations before they were released?

Secondly, I'm curious about, the Department of Commerce seems to have an objection to the National Security Council being given control under your recommendations, and they say that the—of the export policy. They say the current conditions with an executive order which sets time limits would serve to take care of the situation. I'm curious about your response to that. Do you then agree with the executive order that Commerce has some merit in feeling that the National Security Council shouldn't have those controls that you recommend?

Dr. ALLEN. With regard to your first question—and perhaps Dr. Press or Dr. White want to add a comment—but the general policy of the way an Academy study is done is that we participate with the agencies and receive information from them, but our deliberations are our own, and our comments and recommendations are our own.

We submit the report to the—because we dealt with classified information, we submitted the report to each of the agencies to review it and approve it for unclassified release and to comment if there are factual inaccuracies, but we do not ask for review and comment on the recommendations. We take full responsibility for those, and they are probably not agreed to by all of the departments who are affected by them. So we fully accept that.

With regard to the second one, I really am not able to comment very competently on what you said. I'm aware that the Commerce Department believes that the reactivation or reinvigoration of the Export Administration Review Board would be an effective way to provide the resolution of disputes in the export control area and that they would apparently prefer that to the recommendation that we have made which is that the National Security Council staff be responsible for that overview.

I would add that although I don't know how effective the EARB can be, it does seem to me naive to expect that the President would not turn to the National Security Council on matters that were seriously disputatious, because it does involve national security and this is where the heads of the various departments are brought together to resolve major issues.

So it seems to me that in any event the National Security Council would be required for the highest level of policy guidance and dispute resolution, even if the EARB does turn out to be a more effective mechanism perhaps for the more day-to-day dispute.

Mrs. MORELLA. Does there seem to be kind of a turf conflict then in Commerce's feeling that we need not have the National Security Council resolve the disputes but——

Dr. ALLEN. Well, I'm not really close enough to judge, but I wouldn't interpret it that way myself. I would think that they're

just more comfortable with a mechanism that they've used in the past and that has fallen in disrepair.

But as far as the turf problem, of course it is the turf battle between the departments that we feel needs a head knocking capability to resolve, and that really has not occurred effectively in the past, and it needs to be considered by the administration as to how to make it occur better in the future.

Mrs. MORELLA. Thank you very much.

Thank you, Mr. Chairman.

Mr. ROE. The Chair recognizes the distinguished gentleman from Maryland, Mr. McMillen.

Mr. MCMILLEN. Thank you, Mr. Chairman.

Dr. Allen, given the President's charge to invigorate this process, one thing that I found most interesting was the problems small- and medium-sized firms have in complying with the administration, with the controls that are part of the licensing process.

You've pointed out some examples of making the regulations more user friendly and shortening some of the regulations. What can be done specifically in the Department of Commerce to enhance the efficiency of this process, to make it more possible that small- and medium-sized firms can participate in these areas?

Dr. ALLEN. It seems to us necessary to simplify the regulations. That is, even if they lack something in legal comprehensiveness, if they were shorter and understandable by the people who have to work in them day to day, we believe they would be more effectively utilized.

So there would be, we think, a positive gain to just making an absolute determination that the regulations need to be shortened and simplified.

And the other thing is, we believe that the scope of the control list, the number of items actually controlled, can be very substantially shortened so that the number of items which can be shipped under general licenses, under the authorities of the shippers themselves, is much broader because there are many items controlled which are at such a low level of technology that there is foreign availability in such a way, not in the way it's defined in the law but in such a way that it makes those controls really unnecessary, and therefore we believe the list can be substantially shortened and the regulations substantially simplified to ease the burden placed particularly on the small exporters.

Mr. CHRISTIANSEN. If I might make one comment on that, I think the thing that's lacking basically is somebody sitting down or saying to themselves or everybody else, is this regulation that's written, as written, understandable to the audience that we're directing it to? Can the small exporter and the medium-sized exporter, can the person abroad that's got a stake in this too, understand it and comply with it? And if the answer is no, then can it be rewritten so that it can be understood? Can we put some flow charts in? There are no flow charts in the export administration regulations at all. Can we do something with graphics and so on that will do this?

If we can't, and it's still more complicated, then are we really asking the right question and doing the right thing, or should we say it's so involved and so complicated, people can't follow it, and

we're not really doing any good, so let's leave it out. This is the kind of question that's never asked or very seldom asked.

Mr. McMillen. I was taking it one step further than the one-stop thought that was posed earlier, and that is, could an office be established where a small- and medium-sized company could go directly to for help in these areas? Obviously, the cost of compliance falls disproportionately on a small- and medium-sized company, and my thought is, besides certainly performing the regulations, is there another step, a further step, that can be taken in this regard?

Ms. Greenstein. I had been planning to mention on that, because there is an Office of Exporter Services, but it has generally not been as accessible or has been able to provide as definitive advice to exporters with questions, because I guess my own feeling is that no matter how much clarification you have in the regs, they will still be a fairly complex system for someone who's new to them, and that there will be questions of interpretation that the big firms will either send to their in-house experts or refer to very high priced outside counsel, and I think that that is an issue that relates not only to small business in the United States but to relatively small business abroad who would be purchasers.

We have heard a number of questions abroad, whether it would not be capable of beefing up the ability of the American embassies to provide guidance about what do they need as an importer to be able to get stuff out of the United States and on a timely basis and not to get totally tangled up in rules and regs, many of which they're trying to cope with as a second language.

Mr. Christiansen. The field offices of the Commerce Department here in this country—there are 42 of them, I believe—are designed in part to help people who are exporters, small and medium-sized exporters. Unfortunately, sometimes the small and medium-sized exporters have complicated questions that go beyond the expertise of the office, and this is a problem.

Mr. McMillen. Yes.

Mr. Olsen. I'd like to join in this answer also.

One of the concerns that we have is the incremental effects that controls have over time, and that is particularly insidious because it's seldom very evident in a short period of time, such as a year or even a few years, it may not be evident, and this is particularly true of controls. Let me give you an example.

When price/wage controls were implemented in the United States in the early 1970's we knew from the literature and from theory that controls will create shortages. That was not apparent, of course, in the first year or even in the second year, but it certainly became apparent after several years of the implementation of price/wage controls. This can be carried over when we're talking about export controls in this fashion also.

Any time you introduce controls into a marketplace you create multiple markets, you create more markets than would exist if you didn't have the controls. There are the markets that are controlled and the ones that aren't controlled, and when you have an uneven playing field in the way in which the controls are implemented around the world, then you create even more multiple markets, and you put demands and incentives in there for people to develop

skills, and those skills have values, and they cost money, and that's what my colleagues have been alluding to here, that when it's costly to develop those skills small businesses aren't able to do so, and when you get into the international markets abroad the value of those skills becomes even greater, as a matter of fact, to develop them.

The concern you have is that with that of a—those kinds of incentives in place with an uneven playing field in effect, what kind of effects are we going to see evolve over time that will become irreparable in the loss of the competitiveness not only within our own economy of small businesses and large businesses but also of course between the United States and other industries, other countries of the world, who have tremendous incentives here to develop technologies opposite our controls.

Mr. MCMILLEN. Thank you very much.

Thank you, Mr. Chairman.

Mr. ROE. The Chair recognizes the gentleman from Missouri, Mr. Buechner.

Mr. BUECHNER. Thank you, Mr. Chairman.

Your study recommends substantial lessening of U.S. re-export controls and relying on cooperating foreign governments to prevent diversions from their own territory, yet your summaries of your panel's trips to both Europe and the Far East indicate that various CoCom and I think the term was "CoCom-like governments" have great difficulty in preventing diversions.

Is there a conflict between the panel's findings that the allies have difficulty preventing diversions and the panel's recommendation that we rely increasingly on our allies' ability to enforce trade controls?

Dr. ALLEN. Sir, that's a very good question.

Mr. BUECHNER. I wouldn't have asked it if it wasn't.

Dr. ALLEN. Let me try to answer it, and I may ask, again, my colleagues for assistance, because there are several things that need to be said.

First of all, it was our experience that the re-export controls as we apply them in foreign countries are, for the most part, ignored by the foreign countries except in those cases when the U.S. has leverage because it's a U.S. subsidiary or a U.S. affiliate of some kind.

So we found that the re-export controls were not as effective as they should be because, even though the governments gave lip service to agreeing to use our re-export controls, they really did not wish to apply our laws on their companies.

Mr. BUECHNER. Let me interrupt you a second, if you will. Could you give me a couple of examples of which countries do that, or would you prefer not to?

Dr. ALLEN. Well, I think, again, I'll ask one of my colleagues who is more familiar with it, but it's my belief that that really applies to all of the countries and even the most cooperative of them.

Take the Federal Republic of Germany. I believe that they are cooperative in most aspects of this with us, but they are reluctant to apply—to assist us in applying our law on one of their companies, and so the facts of the matter are that our re-export controls in general are not effective as we would hope they would be in

causing a consignee in the Federal Republic of Germany which is a German firm to ask for that re-export control when he gets ready to re-export.

Now—so our first criticism is that re-export controls don't work as well as we would like them to work anyway, and so that brings then back to the same basic point, and that is, the CoCom countries, we need to push them as hard as we can to improve their own export controls, and then, having done so, I think we really have to rely on them. We have to rely on their export controls to control our re-exports, and that that will be, in the long run, a more effective way than this very unattractive and unsuccessful attempt to apply our law in their country.

Mr. BUECHNER. All right. Now—yes.

Ms. GREENSTEIN. Another aspect, I think, of the point is that it's important, I think, to separate out issues of what initially requires a license and then separate enforcement issues, and one can—I think many of our allies as well as many in the United States say that one of the reasons enforcement does not get the attention it deserves is that there are so many things controlled that enforcement priorities are diffused, and that it might be in fact more effective to narrow the scope of things which are controlled to allow both our enforcement people and our allies' enforcement people to really focus in on the people who are diverters, because if you're talking about stuff that's going illegally, I think, at least in my own mind, there's a strong question about whether adding yet another layer of controls through which the honest businessman has to jump is going to do anything, or anything significant certainly, in slowing down the number of diverters who are clearly breaking the law from the beginning.

Mr. OLSEN. This is a personal statement and an observation that people are generally familiar with, and that concept in security areas that if someone wants to steal from you, they can do so, but what you attempt to do is to make it so costly that few will succeed, and that's the intent behind controls as well.

What we see abroad is that there is disagreement over the implementation of U.S. export controls, the way in which they are executed at the present, and particularly the extraterritorial reach of the U.S. export controls, and in fact some countries have actually passed legislation to deny the application of extraterritorial controls by the United States.

When you see that lack of regard, even though they do agree with us that it's important to prevent our technology from flowing to the Soviet Union, to create an environment or a culture, a mentality, within industry as well as in government in those countries where there is some greater laxness than there would be if there was an agreement on how to implement the controls, and in fact the panel's report strikes at this point and proposes to see ways of making the controls more multilateral and to improve the controls within those countries so that U.S. extraterritorial reach isn't necessary.

Mr. BUECHNER. Mr. Chairman, I know my time has expired, but could I ask the panel if they would, in written form or whatever form they'd like to, even of calling me up, amplify perhaps some detail of the specific proposals to strengthen CoCom?

Mr. ROE. Of course. The committee will be submitting a list of questions, and if you want to add questions to that, that's fine.

Mr. BUECHNER. Thank you, Mr. Chairman. Thank you.

Mr. ROE. The Chair recognizes the distinguished gentleman from California, Mr. Packard.

Mr. PACKARD. Thank you, Mr. Chairman.

We do a very good job in this country of—in general research and basic research and in doing R&D work to reach a prototype usually. We do a relatively inept job of moving it from the prototype to a commercial product and commercialize the investment, and I think a good illustration of how that's affected our international competitiveness and certainly added to our trade deficit is the fact that Japan—many of our Pacific Rim countries—Japan and South Korea and Taiwan—have done a very good job of picking up a prototype and carrying it to a product and commercialized it very well internationally, to our own disadvantage, and yet you have indicated in your statement, Dr. Allen, that you don't feel that Russia does a very good job of this and that it doesn't really have a profound effect, that it is not a great loss to the United States or possibly it's not a great loss to the United States in this reverse engineering concept.

Could you comment on that and relate it to what I've just said about other countries that have really profited from this at our expense and the assumptions that perhaps this is not the case with the Soviet Union, what you base that upon and whether you feel that we have enough data to really base a judgment on how well the Soviet Union takes basic research that they've obtained from either a prototype or from obtaining information whatever way and what they do with it.

Dr. ALLEN. Yes, sir, and there really are, of course, several dimensions of the question.

First of all, there certainly is evidence that in the military sector the Soviet uses data acquired by espionage or other ways to improve their military systems and does so rather effectively. At least there is the evidence that there is good equipment often with similar characteristics to—native equipment that appears in the Soviet inventory somewhat later. So one presumes that process works reasonably well for them, although it runs them some significant number of years behind.

The place, of course, that we emphasize that the Soviets are really very weak is in the fact that they do not have this vigorous commercial sector and that because of that the areas which in the West have been such a strong output of that sector—for example, the semiconductor industry, electronics, the computers, some communications equipment—all of these and these dual use technologies have been driven by the commercial incentives that are present in the West, and those do not exist in the Soviet Union, and they are way behind in those areas and do not seem to be catching up at all.

Now the third point which deals with the matter of reverse engineering is a matter that we are extremely convinced of in at least one segment of it, and that is the semiconductors, the microprocessors, the D-RAM's, and all of this, and there the distinction is that a country like the Japanese in developing that prototype also de-

veloped the manufacturing know-how in order to put that in production when they decided to do so.

In the Soviet Union you have the situation that that manufacturing technology and that base of know-how is not there, and then you imagine the circumstance where they acquire a component, study it, and try to then get it into production, and the point is, that's not an effective process.

It was brought to our mind very forcefully by interviewing several companies who described what they have to go through to—having developed a component to be manufactured in the United States, what they have to go through to develop the manufacturing capability for that component in an overseas location. It involves the transfer of many people to the home plant to learn the manufacturing techniques, then the transfer back of the people from the plant and the people from the home plant there for another year or so to ensure that the techniques are put into place, it involves invariably a year or thereabouts of poor production in which there are quality defects in the production, before it's straightened out, and so it is not easy to develop manufacturing capabilities in these sophisticated areas if the infrastructure and the know-how isn't there, and so that's where we say this acquiring a single item is not all that useful.

Mr. PACKARD. It would appear to me that that is perhaps more by choice of the way the Soviet Union has directed their economy, where they have not emphasized a services or a benefit to their society type of an economy. They have been more of a military-oriented economy, and they do lag far behind the United States and much of the developed world in terms of its quality of life.

If they change their attitude though and wish to provide a better service to their people and compete with the civilized world in those areas, then this could change and they could then do what Japan and other countries have done in taking R&D technology and put it into commercialization if those chose to emphasize that. I would have to assume that this could change if Russia changed their attitude toward their own people.

Dr. ALLEN. Well, it certainly is possible. They have a strong base of well educated, at least well trained, engineers and scientists with the rather remarkable production of those that they have. But that change you're speaking about is not going to be easy no matter how enlightened Mr. Gorbachev is. It's a difficult society to change.

Mr. PACKARD. Thank you. Thank you, Mr. Chairman.

Mr. ROE. I thank the gentleman from California.

Is there anyone else?

The gentleman from Pennsylvania.

Mr. WALGREN. Thank you, Mr. Chairman, and I apologize for having had to be elsewhere this morning.

Mr. PACKARD. It appears that we can't operate both at the same time, so one may need to turn the other one off while you're asking (referring to faulty microphone).

Mr. WALGREN. Well, let me just ask—you indicate on page 5 of your statement that 40 percent of manufacturing exports were subject to national security certification and the like. What was that

percentage in times past? Is that an unusually high percentage? What was it—would be in the late 70's or thereabouts? Any idea?

Dr. ALLEN. I don't believe we know the trends of that, sir.

Mr. WALGREN. It seems like a very high number, and it would be interesting to know historically how that has changed. Perhaps we can——

Dr. ALLEN. Let us see if we can find that information and provide it for the record.

Mr. WALGREN. Then in the end of your statement you emphasize the concept of trade as part of national security, and you indicate that the higher levels associated with the National Security Council should advocate trade as part of a broadened concept of national security. Is that because of the importance of the vitality of American business and innovation for technology development? Is that the basis for that interest of national security in trade?

Dr. ALLEN. Yes, exactly, sir. It is our belief that the technological advantage of the West is important, and it stems in part from the vigor of the commercial sector which, in turn, is influenced by the ability to export and trade. So we feel that these are all a connective set of factors and they must be considered together.

Mr. WALGREN. And you say there's not an adequate mechanism for trade advocacy in certainly that level of our present administration and the Government as a whole.

Dr. ALLEN. Yes, sir.

Mr. WALGREN. Are there any suggestions for what the proper mechanism for trade advocacy should be, or is it just an approach that's being taken by present——

Dr. ALLEN. Well, one of the suggestions that we have made is that the Secretaries of Commerce and Treasury be invited to join the National Security Council when issues that relate to trade and economic vitality are addressed.

Mr. WALGREN. Thank you, Mr. Chairman.

Mr. ROE. The Chair recognizes the gentleman from North Carolina, Mr. Price.

Mr. PRICE. Let me just continue that line of questioning as regards the NSC role.

You have spoken about a strengthened NSC role to provide affirmative policy direction and also to arbitrate interagency disputes. I wonder if there are alternatives to that mechanism that you've considered or that the administration has considered.

Dr. ALLEN. Yes, sir, there are alternatives, and we gave consideration so that we don't obviously portray ourselves as the greatest experts in how the Government should be organized. But we thought of other types of things—a presidential assigned commission, one mechanism or another.

My understanding is that the Department of Commerce believes that the reinvigoration of the Export Administration Review Board would be an effective mechanism.

But it was our judgment that the National Security Council was inevitably going to be involved in these kinds of issues because they do relate to national security and that therefore, in any event, it is going to be necessary for the higher policy issues to be addressed by the National Security Council, and therefore some expertise and competence on the National Security Council staff will

be required, and it seems like a reasonable place for the President to utilize as a mechanism for exercising his authority.

Mr. PRICE. And that recommendation, you feel, is compatible with the strengthened role you envision for the Department of Commerce.

Could you say a little bit about the kind of implications for the Department of Commerce that your recommendations carry?

Dr. ALLEN. Well, yes, sir. Commerce is of course the department required by law to be responsible for the export control, and the situation we have now is a bit of an anomaly caused by certain weaknesses that were perceived to exist in Commerce, and it's our belief that it's time now to shift that back.

It will first of all require this affirmative leadership for that really to occur, it won't naturally occur; and, secondly, it will require Commerce to correct those weaknesses which were perceived by this administration when they came into office six years ago. Some of those, we believe, have been corrected by Commerce, and there are some more that will still require improvement if this shift is to take place.

Mr. PRICE. Thank you. Thank you, Mr. Chairman.

Mr. ROE. I thank the gentleman for his comments.

The Chair is going to recommend—I want to make a comment or two, and then the Chair is going to recommend that we'll recess these hearings and we'll take them up again, because I think that there is work yet to be done.

Some of the piercing questions that the Chair would like to ask: What's happened in the great miracle in commerce that it should be returned to commerce at this point?

My father and some of my southern friends—if they'll forgive me—they say to me, "My daddy told me this," and I've gotten used to that myself; I almost started that way, but they'd probably throw me out.

But the point I'm trying to get—a rose is a rose, is a rose. So the testimony has centered on—I don't mean to be facetious—the testimony has centered around the point of view, who can do the job best.

Let me "i.e." digress because I think it's important I do at this point. First of all, I think you ought to be highly complimented for what you've done. I think that you Doctor—General Allen and the leadership of our engineering community and our scientific community should be speaking out on these issues.

So I think you're doing the country a great service. But you've also started a warfare and a bomb that's about to go off, which is great, because I think you've forced the issue now, and that's the reason we're indulging this much time on this issue. You've forced it into national debate, and it has to be forced into national debate.

But the caution is—which came from my good friend, Mr. Brown from California—is that, let's not let the debate be skewed at this point; let's get it into perspective. The assumption that distinguished Americans would come before a panel in the Congress of the United States and say that we think we should be doing something to obfuscate the security issues of the Nation is where some of the newspapers have chosen at the moment, at least, to tilt that debate. There are proponents and opponents to the issue.

Having said that, I think that the debate should not center around the point of national security alone. That's paramount to all of us. You could ask the simple question, or any one of us could say, well, what doesn't relate to national security? The question is, to what degree, as I would see that, and for the other issues involved.

So in your testimony you mentioned in part—you said, "Well, I don't really know whether we need a law; we could do this within the administrative process." But obviously it's not going to be done in the administrative process, at least from this Member's point of view. It appears to me you're going to have to set down some pretty strong guidelines, unless the debate can be resolved at the administrative level. There's no magic in returning then an element of Government to Commerce if in turn it was taken from Commerce because they didn't feel that Commerce was doing an adequate job. Particularly, quote/unquote, to the degree that national security is involved, should you beef up the—what would you call it?—the resources to Commerce or not?

The second point I think we have to come back to which has been lost in this part of the debate so far, is that we now announce—my friends from the scientific community/engineering community, we should be doing the supercollider, and it's a $6 billion expenditure. It happens to be the very root of fundamental advanced technology in the—what would you say?—the resources of matter itself. Am I correct in that interpretation?

Now the question is—and we had written that into our new Subcommittee on International Scientific Cooperation, should we put it—place it there from an administrative point of view, jurisdictional point of view? Was the President going to announce that in his speech? When would that come out as an item? And of course, subsequently, the President has announced that query. Do we coordinate and cooperate with other countries in this particular venture? So joint ventures that were elements of high tech and advanced technology are involved, are all part of the quote/unquote, security issue.

If we look at the space station, the same issue prevails. The SDI program now, they're beginning to share contractual agreements with England and other countries to participate in this very high tech approach. So one comes back at that point and says, well, if we're going to have any intercourse or relationship with our allies, we have to define where those parameters are going to be. Otherwise, we cannot successfully enter into these agreements.

One comes back, and the question was asked from the gentleman down from Missouri. He made the point, how do we work if I go through Hong Kong or whatever? I can make an arrangement, do it in 30 days. What about all the multinational relationships that we have, where, in candor, for business—if you will forgive me—where many of our industrial firms have decided to go offshore, even including—you'll forgive me for a little humor—the frisbee now will be manufactured in Mexico because it's cheaper. You understand where I'm trying to come from?

So that I think we have to force and separate the issue, and we've got to come back and say what is the substantive issue involved here. It is not a debate as to what we should be doing in

security of the Nation, it's how we can refine and redefine and set a program that's going to strengthen our economic dynamics throughout the world and allow us to keep our leading edge in technology. Is that a fair appraisal of the situation?

Dr. ALLEN. Yes, sir.

Mr. ROE. So I think you have started that debate, and I don't want to see the debate fall apart the minute somebody starts blowing the horn and waving the flag on the point of view that the nuts in—in the Science, Technology, and Space Committee, together with your good folks, are willing to sell the secrets of the Nation because we want to sell more bananas and apples. Do I make any sense?

Dr. ALLEN. Yes, sir, and we believe that those things that you mentioned can be done without compromising national security, without reducing but in fact improving the effectiveness of the controls.

Mr. ROE. Well, can the gentleman from New Jersey just make a comment to his good friend, Dr. Allen? We've got to stress that point. That is the subject of the debate, it is not weakening the security of the United States, and I think that's—if we're going to get a sensible answer to it, if that makes any sense.

Dr. ALLEN. Yes, sir.

Mr. ROE. Are there any other questions?

The gentleman from California.

Mr. BROWN. Let me just just follow that up for a moment, because this is really quite fundamental.

Over the past few years, this Nation has embargoed trade with the Soviet Union for political reasons as well as for national security reasons. For example, the wheat embargo under Carter, then the effort to prevent the export of high technology gas turbines for building this gas pipeline. I don't think there was a national security reason, but there were very important political reasons for taking these steps.

The question is how you distinguish between the political reasons—and I personaliy have—and the defense reasons. I have the feeling that in the Defense Department they feel that the political objectives drive the deprivation of the Soviets as much as technical or security reasons, and how you separate that out and get a clear enunciation of policy is extremely difficult, as I'm sure you're aware.

Dr. ALLEN. Yes, sir.

Mr. BROWN. In fact, you mention in your report at one point that—I think you use the term "the world outlook" of the people making these decisions colors the nature of the results, and we have some people in the Defense Department with very strong world outlooks which tend to result in their seeking to penalize the Soviets in every way that they can. If you can deprive them of food, presumably that contributes to our overall advantage against the Soviets.

Dr. ALLEN. I'd like to make just a couple of points. Number one, the law, the Export Administration Act, does distinguish between controls for national security purposes and controls for foreign policy purposes. That is, the President must specify which purpose is applied.

The second point I'd like to make is that the—we believe that our control system must be multinational, and that mechanism is CoCom, and the CoCom agreement is based only on the national security reasons. It's only based on the common perception of the Soviet as a military threat. So if we—there then is a real danger in confusing these two items. They are separated by law. They need to be kept separate simply because we cannot keep CoCom working effectively if we burden it down with other views of why there should be controls. It's not a mechanism for the foreign policy——

Mr. BROWN. I happen to agree with you, Dr. Allen, but in the minds of some of the people here, that separation is not quite as clear cut as it is written into the law.

Thank you. I have no further questions.

Mr. ROE. Are there any further questions any of the Members would like to ask at this point? If not, the Chair would recommend the following. We have a series of substantive questions that we would like to submit for you, Doctor, if we may, to you and your panel for response.

[The questions follow:]

NATIONAL ACADEMY OF SCIENCES
NATIONAL ACADEMY OF ENGINEERING INSTITUTE OF MEDICINE
COMMITTEE ON SCIENCE, ENGINEERING, AND PUBLIC POLICY

PANEL ON THE IMPACT OF
NATIONAL SECURITY CONTROLS ON
INTERNATIONAL TECHNOLOGY TRANSFER

2101 Constitution Avenue, N.W.
Washington, D.C. 20418
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April 15, 1987

The Honorable
Robert A. Roe
Chairman, Committee on Science, Space,
and Technology
U.S. House of Representatives
Suite 2321 Rayburn House Office Building
Washington, D.C. 20515

Dear Congressman Roe:

I am responding to your letter of March 31 in which you posed a series of eight additional questions of member concern derived from our testimony before your committee on February 4, 1987. On behalf of the Academies' Panel on the Impact of National Security Controls on International Technology Transfer (i.e., the Allen panel), I am pleased to provide the following responses.

1. The Academy Report seems to deliver little substantiation or findings concerning Soviet technology procurement, needs, uses, etc. Why this absence of any extensive discussion of what, after all, is a central question in this entire issue?

The panel does indeed agree that this is a central issue. In this connection it reviewed a substantial body of intelligence data - both classified and published - and it received four separate briefings from the Technology Transfer Intelligence Committee, an interagency group. Among the documents receiving careful scrutiny were the 1982 white paper, Soviet Acquisition of Western Technology, and the followup report in 1985 entitled: Soviet Acquisition of Western Technology: An Update.

Despite its access to this information, major uncertainties continue to exist concerning the specific application of Western technology within Soviet military systems versus what the Soviets would have been able to accomplish purely on the basis of their indigenous capabilities. Information in this area is - and is likely to remain - fragmentary and anecdotal. However, given the national security backgrounds of many who served on the panel, we do not believe that this led to an underestimation of the severity of the problem.

2. The Academy Report makes a number of recommendations for policy changes by other countries, both COCOM members and others. In your judgment, how realistic is it that these other countries will, in fact, make the changes called for? Should we make changes in our own export control policies, such as abandonment of third-country export control, contingent upon changes made by those other countries?

The negotiating objectives recommended by the panel are clearly ambitious. But the panel found that ambitious efforts are required, given the current problems within the global national security export control regime. To be successful, U.S. strategy must employ a judicious combination of pressure and accommodation. Too often in the past, the U.S. approach has been characterized by the use of diplomatic muscle, without offering sufficient incentives. The panel believes that greater use of incentives such as relaxation of reexport controls, reduction in West-West licenses, or paring the International List will improve the chances of agreement.

With regard to the most difficult problem - namely, agreement among the CoCom countries to control exports to noncooperating Free World countries - the panel is not suggesting that other countries adopt U.S. reexport controls, to which many have strong objections. Instead, it is recommending a strengthening and extension of other policy instruments such as the Import Certification/Delivery Verification procedure, end use checks, screening out of suspected diverters, etc.

The panel did recommend that some changes should be implemented by the United States regardless of international agreement. But, in its view, these changes would actually improve the prospects of agreement by narrowing the scope of affected trade.

3. Many of the National Academy of Sciences recommendations deal with strengthening CoCom, especially as regarding shipments to "third countries." To what extent are these recommendations predicated on improving CoCom? How quickly should the U.S. move in shortening the control list and ending re-export controls and west-west licenses, absent changes in COCOM? What is your assessment of how willing COCOM members are to the changes you recommended?

The United States should move as quickly as possible on list review because it will enhance our bargaining position. Thus, such changes are NOT predicated on improving the CoCom process. Moreover, the panel found it appropriate to reduce West-West licensing and reexport controls where other countries exercise reasonably satisfactory control. Rarely, if ever, will such

controls be identical to those of the United States. However, the panel found that the likelihood of further positive action by the CoCom allies could be enhanced by reducing the scope of the items covered and signalling a greater willingness to trust our major CoCom partners.

4. What specific proposals can you give for strengthening the CoCom mechanism and multilateral controls in general?

The panel's recommendations provide a number of specific suggestions for strengthening the CoCom mechanism. These include: (1) reducing the scope of the CoCom International List, (2) instituting a "sunset provision" on low end CoCom controlled items, (3) eliminating the requirement for unanimity for CoCom decontrol of low end - and often obsolescent - technology, and (4) providing greater "transparency" to industry on CoCom decisions. All of these steps would not only improve the efficiency of the CoCom mechanism but also the willingness of the CoCom allies to enforce the agreed upon controls.

5. With respect to the computer/semiconductor industries which evidence a decline from an $8 billion surplus to an equivalent deficit in 5 years, do you accept the premise that export controls exacerbated the decline? On what data do you support your view?

The panel examined only one specific product category - analytic instruments - where changes in control levels had occurred and effects could therefore be measured because the Commodity Control List description could be matched to trade data categories. On the basis of the evidence reviewed, we believe that export control differences are a contributing - if not a major - factor in the semiconductor trade picture, but we are unable to give a precise estimate of that effect.

6. The report states that 40% of the U.S. exports of nonmiltary manufactured goods in 1985 were shipped under a license requiring prior approval. How has this percentage varied over the years from the late 1970s to the present?

Data do not exist for previous years, primarily because the Department of Commerce has not monitored actual shipments under individual or bulk licenses. (Our figures are estimates based on survey data.) The share of U.S. exports under validated licenses has undoubtedly increased, however, in part because of an increase in compliance.

7. How can interagency conflicts in the administration and interpretation of the Export Control Act best be resolved? What are your thoughts on Article 10(g) of the Export Administration Act?

Part of the need for a dispute resolution procedure - as provided for in Article 10(g) - would be obviated by establishment of an effective "overarching mechanism" within the Executive branch of government. The panel concluded that, while the Department of Defense has an important and legitimate role to play in the identification of technology that must be protected due to its key role in military systems, it was no longer appropriate for DoD to be involved directly in the licensing process, a role that is assigned by law to the Department of Commerce. Thus, if improvements were made along the lines of the panel's recommendations, the likelihood of Article 10(g) being invoked would be further reduced.

8. The U.S. is presently pursuing bold technological initiatives, requiring international cooperation, e.g., SDI, Superconducting Super Collider, ...; What work is under way to ensure the appropriate balance of technical exchange and U.S. economic stimulation, subject to national security protection?

With the exception of the space station, the panel did not examine these initiatives in detail. It did, however, hear substantial concern expressed in its overseas fact finding missions about restrictions that might be imposed on foreign companies that chose to participate in SDI related research. Although this matter was not of central concern to the panel, it clearly will require careful monitoring in the period immediately ahead.

It is my sincere hope that these responses will prove useful to the committee in its further deliberations on this important national issue. We stand ready to provide additional information on this subject to you and your staff should the need arise.

Sincerely,

Mitchel B. Wallerstein
Project Director

cc: Lew Allen, Jr.
Allen Hoffman
Paul Sitton

Mr. ROE. I want to thank you and all of the distinguished witnesses for—and all the participation you've done. It's a great deal of work. You've added a great deal to the body of knowledge that we're working with here. And we're going to recess these hearings at this point and then reschedule. We may be asking you to come back as we sift through some of the thoughts we have and some of the thoughts that you may have that you want to further call to our attention.

Furthermore, I want to give you a second platform as the discussion begins to evolve where we can have some interchange and some review of other people's thoughts and views.

That was put together rather diplomatically.

So we want to thank you very much, and the committee will now recess to the call of the Chair.

[Whereupon, at 12:25 p.m., the committee was recessed, subject to the call of the Chair.]

NATIONAL ACADEMY OF SCIENCES REPORT ON INTERNATIONAL TECHNOLOGY TRANSFER

THURSDAY, APRIL 23, 1987

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
Washington, DC.

The committee met, pursuant to notice, at 1:48 p.m., in room 2318, Rayburn House Office Building, the Honorable Robert A. Roe (chairman of the committee) presiding.

Mr. ROE. The Committee will come to order. Before we open the formalities of this hearing, we need a motion to approve the Technology Policy Task Force Membership for six months.

Mr. HAYES. I would move that the proposed membership for the Technology Policy Task Force, which is before the Members be approved for a six-month period, commencing April 23, 1987.

Mr. ROE. Is there a second to the motion?

Mr. BROWN. Second.

Mr. ROE. Motion made and seconded. All those in favor signifying by saying "aye."

[A chorus of ayes.]

Mr. ROE. Contrary.

[No response.]

Mr. ROE. So carried.

This afternoon's hearing by the Committee on Science, Space and Technology is the second review of the findings documented in a National Academy of Sciences Panel Report on the impact of National Security Controls on International Technology Transfer.

During our February 4 hearing, Dr. Lew Allen, the distinguished Panel Chairman, presented an extensive summary of export control policies and administration. This report emphasized the need to maintain a sensitive balance between the need for protection of national security and the need to stimulate economic vigor and technological advance throughout this country and the world.

It is clear that this is a very highly complex issue and involves basic mechanisms of national security protection, foreign policy, trade controls and technical exchange. These mechanisms are central not only to the strong concern in the 100th Congress for competitiveness, but, within that framework, the extension of our policy toward international exchanges, pursuant to the advent of our big science initiatives. Examples of these initiatives include the SDI, the Superconducting Super Collider, and the Space Station.

Our review today provides an opportunity to explore perspectives on technological export controls with the Department of Defense.

At our earlier hearing, we found that the extensive discussion with the Academy Panel did not permit us to hear the testimony of Mr. Richard Perle, the Assistant Secretary of Defense for International Security Policy.

We express our appreciation to Secretary Perle for agreeing to return to our hearing today and present his views of the Academy Report.

I would like to say at the outset that Secretary Perle has high regards, and credits throughout our Government for a very, very distinguished career and a great deal of hard work and innovative thinking that you have provided for this country, and particularly the Department of Defense.

Having said that, we want to welcome you and thank you for sparing your time today to be with us.

[The prepared opening statement of Mr. Roe follows:]

OPENING REMARKS OF HON. ROBERT A. ROE, CHAIRMAN

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We will begin after the remarks of Mr. Lujan, the distinguished Representative from New Mexico and the Committee's Ranking Republican Member.

Mr. ROE. Mr. Lujan is not here. Does anyone wish to have some opening comment? Mr. Boehlert?

Mr. BOEHLERT. No statement, Mr. Chairman.

Mr. ROE. Any other statements?

[No response.]

Mr. ROE. Okay. Again, Secretary Perle, I want to thank you for being with us. We have your testimony and we would like you to proceed from there.

STATEMENT OF HON. RICHARD N. PERLE, ASSISTANT SECRETARY OF DEFENSE FOR INTERNATIONAL SECURITY POLICY, DEPARTMENT OF DEFENSE, WASHINGTON, DC

Mr. PERLE. Thank you, very much, Mr. Chairman, for your kind words. Thank you for inviting me to appear before the Committee, and for finding the time in the Committee's busy schedule to permit me to appear.

I have a prepared statement which I would be happy to submit for the record, and then rather than read it to you, I would wish to make a few key points.

Mr. ROE. Hearing no objection, the gentleman's full statement will appear in the record.

Mr. PERLE. In approaching the question of export controls and national security, I think all of us involved share the view that you just attributed to General Allen, that we have to find an appropriate and a proper balance between commercial and national security interests.

There is no controversy about that. Such controversy as there is, is about how we go about that task of reconciling those sometimes conflicting interests and how we structure the institutions of the Government to deal effectively with the two problems of national security and access for the American business community to the international market.

I think it is worth taking a moment to share with you the background against which the activities of the Department of Defense for the last six years have been directed.

In 1981, shortly after taking office, we became aware through some quite extraordinary intelligence that was made available to this Government by a friend government, of the remarkable extent to which the Soviet Union was utilizing Western technology in order to support its military program.

Indeed, the documentation that became available to us, which was so extraordinarily sensitive at the time, that the number of officials in the Government permitted to examine it was limited to a handful outside the intelligence community group that performed an extensive analysis on it; revealed that there were then over 5,000 significant Soviet military projects that utilized Western technology.

In this quite remarkable documentation we were able to observe, project by project, the Soviet military program, the Western technology that was needed in order to bring it to fruition, the specific organization within the array of Soviet organizations devoted to this task that had been assigned responsibility for that particular acquisition, whether it was the KGB, or the GRU, or the Academy of Sciences, or some other organization; the hard currency budget available for the acquisition, the ruble budget available to support its acquisition, the status of the operation and so forth.

It was a quite extraordinary display of the thoroughness with which the Soviets had familiarized themselves with Western technology and integrated its acquisition into their own military plans.

Indeed, that was perhaps the most striking message that came out of this documentation. It was that the Soviets were so certain of their ability to acquire technology, that they could confidently plan on that basis. I must say that the planning documents that we had were every bit as good as the planning documents that one expects to develop in the Department of Defense, where there are no obstacles to the procurement process of the kind that export controls are intended to impose on Soviet acquisition of Western technology.

This, in large measure, this discovery, accounts for the vigor with which the Administration sought to reexamine the effectiveness of

the existing system of controls, and its renewed dedication to making that system of controls more effective.

So, for example, early in the Administration the Department of Defense transferred almost $30 million to the U.S. Customs Service, seed money so that they could put in place a controlled mechanism which had not existed previously.

Within the Department of Defense we set about organizing a dedicated unit that would have as its principle responsibility the review of technology exports in order to assess them with national security in mind.

We also sought to reinvigorate the process by which we and our allies coordinate our policies with respect to technology transfer by breathing new life into CoCom, the Committee in Paris that handles on a collective basis both policy and the associated government instruments for dealing with Eastern acquisition of Western technology.

It turned out, Mr. Chairman, that the first high-level meeting of the coordinating committee in Paris in 25 years was held in early 1982, at the urging of the Department of Defense and by this Administration.

We discovered when we looked at CoCom that they operated the last hand-cranked mimeographed machine in Western Europe; they had no professional staff; they had a budget of under $.5 million a year, and this was the international institution charged with the awesome responsibility of protecting the security of the West by restricting Soviet acquisition of advanced technologies that spell the difference between victory and defeat in conventional war.

We have continued those efforts through the whole of this Administration. We have put in place an organization with the Department of Defense that is effective, competent and modern, and that takes very seriously its task.

We had half a dozen people assigned to this activity when we came in, in 1981. We have 150 people now in their own quarters. They have a computer. There were no computers devoted to this activity before we began the process of modernizing the departmental involvement in the process of export controls.

It would be hard to estimate and even harder to over-estimate the extent to which our national security can be adversely affected by improvident transfers of technology to the East.

Perhaps I might share with you one quite recent example. It is a very unhappy story and one that does not yet have a conclusion, but I think I can say that owing to the activities of two large companies, in two different countries, both members of CoCom, conspiring together to make available to the Soviets a critical military technology, the capability to produce super-quiet submarine propellers, the ability of this country and its allies to detect Soviet submarines has been disastrously damaged.

I can't tell you now what it would cost us to recover the capability that has been lost as a result of this transfer of technology, but while the transaction itself netted a few million dollars for the companies involved, the costs to the United States of recovering that capability will be in the billions.

So there is a tremendous disproportion between the value of the trade, in this case, and the costs to this and to other countries of

the free world in compensating for the damage that has been done. And while this is a dramatic example, it is only one of many, unfortunately.

The business community has for years complained about the system of export controls, not so much about the existence of export controls, but about the way in which the system has been administered. I have great sympathy for those complaints.

One of the services that the Government of the United States provides to American industry is an opportunity to export with advice, backed up by law, as to whether those exports might be potentially damaging to our national security. The production of the institutions of our Government that represents this effort is an export license.

In my judgment, American industry is entitled to expeditious, careful and deliberate consideration of its requests to export sensitive technology abroad, and there is no excuse for a failure to deliver licenses in a reasonable period of time and with a reasonable degree of predictability.

There is no reason why this Government can't do that. If all of the departments of the Government work together and, more importantly, if each modernizes its own participation in the export licensing process in a way that the Department of Defense has done so, there is no reason why the principal concerns of the business community cannot be met without a radical and dangerous transformation of the system of export controls that is necessary for our national security.

Now there is a tendency, when there are problems and when those problems emerge in the context of a slogan, masquerading as a policy—and the slogan in this case is the word "competitiveness"—there is a tendency to look for simple answers, quick fixes.

One simple answer and quick fix to the problems that exist, and the problems are real, and many of them are identified in the report of the Allen Committee; one of the quick fixes would be to diminish significantly the technology that is under control on the theory that if there are fewer items to be controlled, there will be less inconvenience to the community of industries that require licenses.

While it makes very good sense, constantly to examine the list of embargoed technologies and commodities in order to assure ourselves that there is nothing on that list that could usefully be struck from the list because it is no longer of military significance, I think an effort arbitrarily to choose a percentage of the items on the list in the mistaken belief that a shorter list will necessarily be an improved list, would not achieve the purpose that people have in mind.

The list is undoubtedly a long one, but it is a long one in part so that it can be a precise one; so that we can cope with what otherwise would be the serious problem of capricious decision-making. That is to say, if you aggregate into broad categories the various technologies that we have under control, you would have a much shorter list, but you would also have individuals making decisions on the basis of rather broad statements of principle rather than the precise identification of technologies which now results in a rather long list.

It is a little bit like an automobile parts catalogue; you want to be sure that the part you are ordering fits, and so you describe them with great precision, and that means a long list, not a short one.

So I hope we will resist the temptation and the recommendation made in some legislation to slash the list by 20 percent or 40 percent, or what-have-you, because it is virtually certain that if we were to do that we would end up deleting from the list items that, if traded freely, would assist and perhaps assist significantly the development of Soviet military power with an obvious consequence for our own defense budget.

If we have to invest, as we must in order to keep pace with Soviet developments, and the Soviets vastly outnumber us—whether we talk about tanks or planes or armored personnel carriers, or artillery tubes, or what-have-you—in terms of quantity, we are now and are likely to remain inferior. We have to keep pace by maintaining the technological edge and we can't do that if our technology is being readily supplied to the Soviet side.

There has been a tendency in much of the recent discussion about export controls to blame export controls for a number of afflictions that we have suffered in our international trade. In my prepared statement, I have sought to identify the many other factors, and in my mind much more important factors, that have influenced the balance of payments situation we face, and even the loss of market share with respect to high technology.

The fact is, we have been increasing our high technology exports and we have done so at a rather considerable rate. We have had a flood of imports, and so the balance doesn't look very effective, but I think if one looks to other factors, one is more likely to uncover the source of our difficulty, rather than the export control system which ought to apply, and in the main I think does apply equally to all of our trading partners.

So when we talk about competitiveness, and competitive advantage, I think it is important to recognize that we and our allies, together, subscribe fundamentally to the same list of restraints and inhibitions.

So let's not blame everything on export controls. There are a lot of other problems in the economy and high-tech economy; there are trade barriers everywhere. There was a period in which the dollar was pricing American commodities out of the market. You know the other things that bear on these issues.

Let me conclude by quoting from General Allen's comments before this Committee. He said, "In effect, the Department of Defense has accepted the charge from the President to invigorate the system, and it has done so. In the process, it has simply outclassed the other agencies of Government in its personnel and financial resources and its bureaucratic skills. As a result, the other agencies of the Government have become demoralized and this has led to unbalanced policy."

If I may suggest, if we are concerned with competitiveness, let's have competitiveness in the excellence, vigor and energy with which the departments of the Government come together to implement effectively a system of export controls.

Don't ask the Department of Defense to decline to the level of other agencies who have become demoralized, because we are not demoralized. Let's provide the means with which all the agencies in the Government can achieve the standard of excellence that I think we have achieved in the Department of Defense in dealing expeditiously and carefully with those licenses that come to us for review.

We now grant licenses, or recommend licenses in 60 percent of the cases that come before us within 48 hours. We do this not because we are careless in the way we treat these licenses, but because we began six years ago to plan for the automation of license processing, which would seem to be the self-evident way to proceed, and we have computers now programmed so that the easy cases are dispatched almost at once.

This permits the people we now have employed to work on licenses to devote themselves to the hard cases, and to work together with industry to try to find ways where necessary to modify license requests in order to permit technology to be exported. Sometimes it means downgrading it a little bit so that it comes within the CoCom guidelines. Working those cases on a customized basis takes time. But by freeing our personnel from the burdens of routine cases, which one can do with automation, it has been possible to achieve significant results.

Industry used to complain to us that they didn't know what happened to their license applications once they were turned over to the Government. That is a perfectly fair complaint. We heard what they had to say and we have now installed a computer operated message board, and any company that has a license before us can have its computer telephone our computer and get a status report on exactly where there license request stands.

There is no reason why other departments of the Government could not do the same thing.

We have devoted the resources necessary to accomplish the task, and there is no reason why other departments in the Government can't do the same thing. I believe the Department of Commerce needs more money. It needs more trained personnel; it needs the high level of morale that one finds in the Department of Defense and the way to accomplish that is by deciding that the task ahead of us is to deliver a reliable product, an export license, that reflects national security concerns as well as commercial interests, and I see no reason why that can't be done.

I hope that this Committee will urge the Congress to take a positive approach to the solution of this problem.

The answer doesn't lie in diminishing the role of the one department that has put in the time and energy and effort to deliver a reliable product. The solution to the problems we face lies in the Government, as a whole, achieving the same standard. That can be done with a bit of money, a bit of time and effort and a bit of encouragement from the Congress.

The impression has been created that the solution to the problem lies in diminishing the controls rather than in administering them effectively. In my contacts with American industry, and I suspect many of you have had the same experience—the concern of industry is that it has available to it a process that works. They don't

necessarily want us to stop controlling exports, but they do want to get a license and they want to get it in a reasonable period of time, they want to get it in the same period of time their competitors get it and they want understandable decisions and predictable decisions.

There is no reason why we can't do that within the existing system. There is no reason why we can't continue the effort to urge our allies and third countries to invigorate their systems of controls, just as we have invigorated ours. But if the signal we send to them is that we are now going to reverse field, change direction and relax important constraints, then I think we will fail to achieve the improvement in their performance that the Allen Committee recognized was necessary if we are going to effectively administer on a multi-lateral basis a system that has served the security interests of the West very well for many years.

Thank you, Mr. Chairman.

[The prepared statement of Secretary Perle follows:]

STATEMENT OF THE HONORABLE RICHARD N. PERLE, ASSISTANT SECRETARY OF DEFENSE FOR INTERNATIONAL SECURITY POLICY

I am glad to meet you today to discuss export controls and in that connection, some of the findings of the study of the National Academy of Sciences on export controls and technology transfer. I would also like to outline the administration's proposals to streamline the export control process. This subject is of the highest importance to our national security.

This committee of the House of Representatives has a distinguished record of supporting American science and technology and ensuring that we maintain our competitive position in these fields. Export controls allow us to maintain our lead in military technology over the Soviet Union. If these controls were removed or severely weakened, it would exacerbate the large Soviet advantage in numbers of troops and weapons. This would require a much larger defense budget.

Let me discuss some strengths and some weaknesses that I see in the National Academy report.

EXPORT CONTROLS DO NOT HARM COMPETITIVENESS

The Academy's panel can only be commended for addressing the question of increasing U.S. exports. We are all concerned about preserving American competitiveness in the world economy, and the President set forth a vigorous program of action for Congress and the executive branch in his Competitiveness Initiative.

Unfortunately, the Academy study did not have the perspective to judge the relative importance of export controls and other factors in our economic performance. The report seeks to show that national security controls tend to discourage U.S. firms from emphasizing exports. The report contends further that the Department of Defense's role in reviewing export license applications for certain destinations further erodes the U.S. incentive to export.

This is not the case. Export controls are at worst only one factor in the trade deficit.

At the macroeconomic level, national security export controls are only one of many factors influencing foreign trade. Major economic factors affecting U.S. exports have been the gap between domestic saving and investment which resulted in the high value of the dollar; slow economic growth in Europe and Japan; and the debt crisis in developing countries. These underlying factors have been greatly exacerbated by the protectionist trade policies of foreign governments, intense foreign competition for U.S. firms, heavy off-shore production by U.S. manufacturers and, in the case of computer software, piracy. When we add the economic downturn suffered by Third World nations that might buy U.S. goods, export controls move farther back as a determinant of U.S. trade.

We must also remember that our trade problems stem as much from an excess of imports as from a shortage of exports. U.S. exports, and in particular exports of high tech manufactured goods, have continued to grow since 1982. For example, U.S. exports in high tech have increased from $58 billion in 1982 to $73 billion in 1986. Meanwhile, on the import side, foreign competitors are taking an increasing

share of the U.S. market. Imports of high tech have jumped from $35 billion in 1982 to $75 billion in 1986.

In this regard, I believe that the Panel's estimate of loss of exports and of jobs is based on flawed economic analysis. It attempts to extrapolate from a narrow industrial sector to the entire U.S. economy.

Indeed a large factor in our trade problems in high technology is imports. Pull off the back of any personal computer and you are likely to find many foreign components. Part of the reason for this is that firms have transfered technology out of the United States to take advantage of lower wage rates. The Commerce Department has stated that foreign sourcing of high technology has been a major factor in the decline in U.S. high tech exports. Thus, U.S. high technology firms themsleves, by shifting the production of high technology commodities of U.S. design to offshore production facilties, are contributing to the impression that Amnerican products are becoming less competitive. It is regrettable that the National Academy panel did not address this issue. By avoiding this issue, the panel missed a major opportunity to address one of the most troubling problems underlying our trade deficit.

In certain important markets, the Administration's export control initiatives, either sponsored or strongly supported by the Defense Department, have led to an increase in U.S. exports. In 1984 the United States signed a memorandum of understanding with India on the protection of U.S. technology. At about the same time the U.S. liberalized its high technology trade with China because of the changing relationship between the two nations. Subsequently, U.S. exports to both China and India rose in high technology and in manufactured goods generally. For example, exports of high technology to China jumped from about $700 million in 1984 to over $1 billion in 1985. In India, they moved from about $480 million in 1984 to about $740 million in 1985.

DISPUTED CASE

Before I turn to the panel's recommendations, let me note one very serious staff error. The study implies that the government, particularly the Defense Department, takes an unjustifiably long time to review license applications. This is simply not true. The Defense Department has reduced its time to review license applications to about 15 days. We have looked into the single case that is cited in the text, which claims that the government took over 900 days to reach a decision (page 114).

I can tell you today that this is not correct. If the study's staff had contacted the Defense Department, it could have learned the facts. We have confirmed these facts with the company concerned. The original case was processed in 61 days, and the application turned down by both Defense and Commerce. The company was advised to downgrade the equipment to win approval, but it chose not to do so. Over an extended period there were discussions between the company and government departments. Finally, the company took our advice, downgraded the equipment and sold its product. The company then sent a letter of commendation to the Defense Department official who had helped it secure the license.

USEFUL RECOMMENDATIONS OF NATIONAL ACADEMY STUDY

Let me now tell you which recommendations of the study I consider to be useful for the Congress and the executive branch, and those which are not so useful.

I agree fully with a number of recommendations made by the panel. Indeed several of these recommendations coincide with initiatives taken by the Administration and specifically the Defense Department. I am pleased that the panel has paid such close attention to these parts of our briefings.

The panel recommends that the United States take the lead in further strengthening the CoCom mechanism. (CoCom is the international arrangement among the United States, the European NATO nations and Japan which coordinates international policies regulating the transfer to the Soviet bloc of strategic goods and technologies.)

The Defense Department supports this recommendation wholeheartedly. We have been the department in the U.S. government that has most consistently and forcefully pushed to strengthen CoCom. At present, the United States and its CoCom partners are continuing and intensifying work in harmonization and reduction of national control lists, including removal of items whose control is no longer feasible; more effective enforcement of controls by all nations; and coordinated approaches to those high technology producing and importing neutral and nonaligned nations that are not member of CoCom.

The Defense Department and other departments in the Administration have acted to strengthen CoCom through automation. We are eager to move forward with

our allies and trading partners to increase the effectiveness of CoCom in all ways. I believe that the faster and more efficiently all CoCom countries can review license applications, the better for American business.

I also strongly support the idea of negotiating comprehensive understandings with third countries. This has, in fact, been a major initiative of the Administration and we are pleased that the National Academy panel endorses it. In addition to our arrangements through CoCom, we have reached a series of agreements with other Asian and Western European countries to improve their export controls in return for access to more advanced American technology. We are discussing such controls with additional nations now. Other CoCom countries share this U.S. concern and have made similar approaches to such nations.

IMPRACTICAL RECOMMENDATIONS OF STUDY

However, I must also express my disappointment at several recommendations of the National Academy study. Let me note two that were undoubtedly well meant but are not practical or useful.

The study proposes a significant reduction in U.S. export and reexport controls. Instead, it favors relying fully on allied and other friendly governments to stop diversions and guard U.S. technology abroad. Unfortunately, this ignores the inability of many U.S. allies and trading partners to counteract the increasingly sophisticated worldwide Soviet efforts to divert U.S. technology. Many of these countries lack the legislation, criminal penalties and trained personnel needed to deter and punish illegal diversions. Often U.S. export and reexport controls provide the main legal mechanism for preventing diversions of sensitive U.S.-origin technology to embargoed destinations. U.S. controls provide the crtitical audit trail essential to tracking a diversion spanning a number of countries.

The Academy team's own trips to Europe and Asia show that various CoCom and other friendly governments have great difficulty in preventing diversions. I believe that there is a conflict betwen the panel's findings that the allies have difficulty preventing diversions and the panel's recommendation that we rely increasingly on our allies' ability to enforce trade controls.

A second major problem with the Academy study is that it concludes that the Defense Department has taken an overly active role in export controls. This conclusion is wrong.

It is hardly surprising that the Department of Defense takes the lead on many initiatives. Export controls exist to protect national security, and national security is a responsibility of the Department of Defense. But DoD is also sensitive to the need to protect America's industrial base, particularly its high technology base. Many of our initiatives have reflected this sensitivity.

The Department of Defense has acted aggressively to adapt our export control system to the need for technological competitiveness. DoD has taken the lead in automating its own and CoCom's case processing systems in order to minimize hindrances and delays to U.S. exporters. The Administration is committed to quickly developing an integrated Government-wide system for case processing based on systems already developed by DoD and others. We have offered to share our experience.

The National Academy study also exaggerates differences within the Administration. For example, the study asserts that within DoD, "technical factors" have been subordinated to a policy bias in favor of controls. I disagree. Top officials and staff members from the Offices of the Under Secretary for Policy and the Under Secretary for Acquisitions (formerly Research and Engineering) have worked together effectively. The two offices jointly formed the Defense Technology Security Administration.

Indeed, technical experts tend to be very firm in recommendations to limit the transfer of U.S. technology. The difference between this Administration and its predecessors is that these technical considerations have not been overridden by political decisions to support sales to the Soviet bloc regardless of technical military consequences. The case of China makes it particularly ironic that the Academy study has criticized Policy officials for taking a restrictive view. It was Defense Policy officials, acting in accordance with the President's overall national security goals, who decided that technical objections should not stand in the way of a policy on transfer of technology which has greatly increased U.S. sales to China.

The National Academy study also implies that there are major differences between the Departments of Defense and Commerce. It states that Defense has taken over roles that properly belong to Commerce and should be returned to Commerce. In fact, the Departments have worked together on administering and reforming the

export control system. For example, Defense and Commerce jointly developed the "gold card" or certified end user list. This will identify foreign companies that over time have proven their reliability in export control matters and therefore will not need to have their export licenses processed for most dual-use equipment. Preliminary estimates are that this system could reduce license applications significantly. Defense and Commerce are now working on further initiatives to speed license processing and to examine the control list even more rigorously for possible deletions.

CONCLUSION

Finally, I should note that the Academy report does not even discuss the substantial accomplishments of the Administration in stopping the loss of technology to the Soviet bloc. One measure of our success is that CoCom has not licensed a single new turnkey factory for the production of sensitive goods to the Soviet Union in the past five years. Moreover, we are now regaining the lead-time in key military-related technologies that we were losing in the late 1970s and early 1980s before our program took effect. By omitting these and other signs of success, the Academy study takes on a one-sided character.

These examples show why some of the panel's recommendations seem unrealistic and impractical to those of us who have the responsibility to make the export control system work effectively.

The Administration's initiative announced in March will simplify export procedures and eliminate burdens on U.S. exporters. The initiative includes the exemption from license requirements of a number of low technology items which should reduce the total number of export license applications by almost 10%. The proposal will also put in place a certified end user program whereby CoCom country government-related enterprises will not need validated export licenses. Another proposal will allow foreign manufacturers to reexport U.S. parts and components up to a certain level without U.S. Government reexport authorization. The Administration looks forward to working with the Congress in the export control system in a way that meets the needs of American exporters and protects our fundamental national security interests.

Mr. ROE. I thank you, Mr. Secretary, for your adroit testimony. I'd like to set the stage for this Committee's overview of the entire situation. I think you made a couple of basically fundamental points.

You were speaking about whether it be direct or indirect controversy that exists between—of turf. I, for one Member agree; that I believe the idea of turf is immaterial. It is the effectiveness of the system as far as the country is concerned, as far as the people who are looking to export.

But you speak to improving the balance, and we happen to agree with that. And then we talk about the controversy, as to how this is to be achieved, which, of course, is a part of the bases of these hearings, as you know, not only in this Committee, but in other committees, as to what is the right thing to do, stemming out of the Allen Report.

I think it would be helpful for the Committee if we could get some insight from you, from your experience. You spoke to the 1981—in the Heritage speech, and also today—of the status then of the effectiveness of the CoCom situation. You mentioned the mimeographed machine and so forth.

That seems to me to be the heart, the international cooperation amongst our allies, that seems to be the heart of the issue. Where does that stand today? Has it been beefed up; does it have the resources? What is happening there, from your observation?

Mr. PERLE. I think we have made significant progress. We kind of woke the place up when we suggested a high level meeting, and the other governments had to look around and find out who the appropriate under-secretary was. They all met in Paris in 1982 and

had the first discussion, as I say, in 25 years, at the policy level, both about the substance of export controls and about the institution that we had agreed years before that would be charged with responsibility for implementing it.

It is important to understand what CoCom is and what it is not. It is a voluntary organization. There is no treaty that has brought it into effect, and it gives us an opportunity to persuade one another as to whether an individual commodity or category of industrial know-how should or should not be controlled.

There is a continuous process by which a list is drawn up.

Mr. ROE. Who draws the list up?

Mr. PERLE. It is drawn up by CoCom, but CoCom for these purposes consists of the member nations. So we negotiate.

Mr. ROE. If the gentleman would hold there. Originally CoCom had x-number of countries, and then Y were added over a period of time, including Japan.

I think this background is important to the Committee. The headquarters are in Paris. It is an ad hoc type of thing in the sense that, as you pointed out, does not have a treaty-basis; we belong and it is a voluntary type of thing.

What is the guts of it? How many people do they have? You said they had 12 or 14. Do they now have 500? What do they actually do?

Mr. PERLE. No. It is not an enormous staff even now. I think the best way to describe it, it is a more or less continuous mark-up. That is to say, the member countries are arrayed with delegations around the table in an annex of the American Embassy in Paris, which we have provided the housing for CoCom all these many years, and category by category they discuss what should and should not be subject to embargo.

Mr. ROE. Do they have representatives that are appointed by the respective governments?

Mr. PERLE. That is correct.

Mr. ROE. Who sends those representatives? Does the Department of Commerce do that; does the Department of Defense? Who represents us?

Mr. PERLE. In our case, the Department of State assigns a CoCom representative to the American Mission, to the OECD in Paris, and he serves as our representative. In many other cases, the national representative is also assigned to OECD, or to their embassy in Paris.

Mr. ROE. This is an appointment by the Department of State. Then I would assume they would draw on other expertise from other branches of Government.

Mr. PERLE. Oh, yes. The State Department is there on a permanent basis, but during the negotiations on the embargo list, the national representatives are augmented by expert teams, and frequently, the Department of Defense, the Department of Commerce——

Mr. ROE. Who coordinates that? Does State coordinate that?

Mr. PERLE. There are a variety of inter-agency mechanisms for the coordination of that. There are committees, some chaired by the Department of State, some chaired by the Department of Commerce, some chaired by the National Security Council.

On the whole, that process works rather better than people think it does. There are often disagreements around the table, which is natural. I think as a result of those disagreements, we probably wind up with a better policy than we would if any single institution had responsibility all by itself, because we are trying to balance security concerns and commercial concerns.

Mr. ROE. None of the countries that are involved, that are participants, are mandated to be guided by the decisions that are made.

Mr. PERLE. Oh, yes. The Committee operates on a consensus rule, so that if it is agreed in a category like microprocessors, the most effective permitted microprocessor will have the following characteristics; then by consensus, it is agreed that no one will sell a microprocessor with characteristics that exceed that level.

So at the end of the day, what results from this process of negotiation is an agreed-upon list of embargoed commodities. Now, from time to time, countries will come to CoCom to say we would like CoCom to grant an exception to the rule. Here are the special circumstances that justify that.

So one of the other functions of the Coordinating Committee is to rule on exceptions to its own rules. I think this is probably wise. It is necessary to prevent what would otherwise be pressure to revise the rules to accommodate the individual case.

So we have managed collectively to maintain, I think, a sounder basis for the list by permitting the occasional exception, when there were extenuating circumstances that justified it.

For example, if we know or have good reason to believe that an embargoed commodity will be going to an institution that is not associated with the military and is not in a position to transfer that capability to the military, we sometimes relax—quite often relax—the restrictions.

So it serves that function. In addition, one of the innovations of this administration has been to propose a second sort of consideration on an international basis involving the same countries that participated in CoCom, in a series of studies of the military implications of technology transfer.

That is now taking place on a regular basis, mostly in Paris. A number of countries who are CoCom members have sent representatives to these meetings and we are working our way through a quite ambitious list of studies. The point of this effort is that the typical pattern within CoCom is that the United States, partly because of its abundant intelligence resources, is invariably in the position of trying to persuade all the others that certain technology transfers would be dangerous.

We simply know more about Soviet requirements than most of our allies. In order to share that base of knowledge, we now have the collaborative research effort under way.

Mr. ROE. It took us a little time to set that stage, but obviously I was leading up to a couple of very poignant questions. In your statement that you had given to the Heritage Foundation, you commented in there,

> Now a problem has arisen over the last six years that we and our allies are all painfully aware of, and that is the difficulty that arises when some of our allies are less vigorous in the implementation of export controls than we are. It is largely in

response to the sense that American industry is at a competitive disadvantage that there are those on Capitol Hill and elsewhere that would have been pressing for modification of the system by which we control exports that are in trade between Western countries, and particularly CoCom members.

Then you go from there and talk about the Department of Defense.

In your statement that you made before the Committee, and you spoke to what the Allen Report was, and you came back and said,

I believe that there is a conflict between the Panel's findings that the allies have difficulty preventing diversions and the Panel's recommendation that we rely increasingly on our allies' ability to enforce trade control.

Where I am coming from, and I think this is important to the Committee, is that here is an ad hoc group—call it what you will—called CoCom, and it is supposed to be coordinating the interests so that we don't export our country's high level technological material to the Soviet Bloc.

Then the question is, we meet with the Japanese, we meet with the French, we meet with this group, but there is nobody on this panel who doesn't know that some of our dearest and strongest allies are exporting high technology that shouldn't be exported in the first place, a lot of which came from our American country. Ironically, I may be coming down on your side at this point, and that doesn't mean that we don't believe in competitiveness and whatever.

What I want to settle for us, is that we are focusing on CoCom, but maybe this is not the institutional mechanism we should be focusing on. Do you understand what I am trying to say?

I don't think it is a quarrel between Defense or institutionally in this country, or whether it is Commerce and the speed of getting an export license through; I think that is all peripheral to the central focal point; should we rely upon CoCom? Is it reliable? Are our allies playing in the same fair game we are? Are they working with us? Are they selling technology and transferring technology, such as the West Germans to the East Germans, and so forth? Is it effective at all?

Are we really beating a horse to death here?

Mr. PERLE. I think you have put your finger on the single most important question, and that is can we create a situation in which our allies are committed, not only nominally, but in practice to the same standard that we set? We can argue about what the standard should be, but it ought to be the same for all the players.

I believe we can achieve a reasonable harmonization of standards. We have not done it yet, and some countries are woefully inadequate in this regard.

Some of them are in the situation we were in six years, where their Customs Service, for example, has little capacity to enforce their own internal regulations. In some cases, the internal regulations are too weak. The penalties are too weak.

Mr. ROE. There is no uniform standard; is that correct?

Mr. PERLE. There is a list that we all agree on, but when it comes to the enforcement of that list, when it comes to the scrutiny——

Mr. ROE. Criminal penalties, the enforcements, the patent rights and so forth.

Mr. PERLE. You are right, but there are significant differences. We can do one of two things; we can throw up our hands and say, well, we are just going to have to sink to the standard of the lowest common denominator, or we can try to bring them to our standards.

Mr. ROE. All I want to establish in this hearing, one of many things, but the fundamental basic point is that we are not dealing in absolutes. We are not dealing in facts. We are dealing with a sponge. Is that fair to say?

Mr. PERLE. Indeed, it is.

Mr. ROE. I am not criticizing. I am simply saying that it is a spongy operation because there are no penalties. When people start talking about CoCom—here is our great international conscience that is sitting there protecting each other from the terrible ogres across the El'ban—it is just not so, fundamentally.

Is that a reasonable approach to take, or is that too strong?

Mr. PERLE. I think that goes a little far. Different governments are concerned to different degrees and each has its own particular problem.

Mr. ROE. But so have we. You will forgive me for interrupting you, again. That is what the whole substance of this issue is about; is the United States being throttled because we are dealing with a sieve called our allies as far as technology use, transfer and capitalizing on technology. Or, is CoCom the right way to go? Do we have to reappraise the whole thing, having nothing to do with whether we issue a license in 48 hours, or 48 days or whatever?

Think about that a minute, and let me call upon our distinguished Minority Leader from New Mexico. I just wanted to set that stage, and give you the opportunity.

Mr. LUJAN. Thank you, very much, Mr. Chairman. I apologize for being late. I had an opening statement that I ask unanimous consent to insert in the record.

Mr. ROE. No objections, so ordered.

[The prepared opening statement of Mr. Lujan follows:]

OPENING STATEMENT OF THE HONORABLE MANUEL LUJAN, JR.

The committee has long awaited today's hearing to have the opportunity to hear from a very distinguished and most experienced witness, Richard N. Perle. His experience as Assistant Secretary of Defense is invaluable to the issue under discussion at this hearing.

In February, the committee heard testimony from Dr. Lewis Allen, chairman of the National Academy of Sciences' study on the impact of export control regulations on international technology transfer. This issue needs to be discussed from at least two vantage points. They are need to maintain strong national security ties on technology which, if released, could have adverse impacts on this Nation. The second is the need to balance the national defense concerns with the economic benefits of technology.

I am particularly interested in how we, as a nation, achieve this balance, particularly in those areas of the world where our vulnerabilities may be the greatest. I am speaking specifically about the Latin American region, Pacific Rim and the like, where the economic and political pressures can have magnifying effects on the United States.

Mr. LUJAN. First of all, let me say that I want to congratulate you and the Defense Department on their tenacity on this particular issue, not to give in too easily to those that say that you have to give up on your list of those things that are prohibited for export. I

suppose we would not have the degree of verification that we have in arms control and all of these things that we are discussing with the Soviets now were it not that we have the kind of President that we have now, that has insisted on those verifications before he would even begin to talk to them.

So I like that about the Defense Department.

Having said all of that, is there a real conflict between the Department of Commerce and the Department of Defense, as much of a conflict that the Congress seems to think that there is? Or, are you closer together than what the perception is?

Mr. PERLE. I think we are a lot closer than the perception. There are differences; there are differences on specific cases, on broad policy, on where responsibility lies for the problems in the system. But when we get around the table we can, generally speaking, hammer out an agreement. I think those differences are inevitable, and frankly, I think they are healthy.

Mr. LUJAN. As you know, we have this particular piece of legislation to loosen up on it, and to make the burden of proof on the Department of Commerce that there is foreign availability. Do you think that the Department of Commerce would favor that; that you would turn it around rather than the proof being just the opposite of what the bill calls for?

Mr. PERLE. You know it is tough to establish foreign availability because every exporter who comes through the door will tell you that he is entitled to a license because this stuff is available all over the world; anybody can get it anywhere. Then you look at the sales literature and it says, "unique, state-of-the-art, just out yesterday, you can only get it here."

How do you determine the truth? If something is available elsewhere, does that mean it is available in the same quantity and on the same time scale and at the same price, and so on?

The way you do it is by hiring some people whose job it is to go out and build the data base necessary, and you keep that data base current and you establish the facts. You can do it if you make the effort. If you don't make the effort, then it is a lot easier to say that the burden of proof is on somebody else because I am not prepared to make the effort.

Mr. LUJAN. One final question. You know, you were overturned by the National Security Council on the sale of a computer to Iran, not on the question of national defense, because I guess it was proven—or maybe not proven; I don't know—that it was not giving them some military advantage; that it was just simply based on Secretary Weinberger's thought that we shouldn't be doing anything with Iran.

Are those decisions on controlling the export of some item made on some basis other than our internal security?

Mr. PERLE. There are two standards that can be applied under existing law. There are national security controls and the burden of the Defense Department involvement in these matters is generally restricted to national security controls, but from time to time we impose what are known as foreign policy controls where there is a reason that appears to be in the national interest, other than our immediate national security.

I think the computers for Iran were one such case. We are privileged, in my view, to have a Secretary of Defense whose perspective on these matters is broad and it encompasses issues of foreign policy as well as of national security. The Secretary expressed himself on doing business with Iran.

Mr. LUJAN. You say that is proper, even though the Secretary of Defense's role is the defense of this country and we all—immediately the military aspects come to mind. It is somebody else's area that should be concerned about the foreign policy. It is not used often, first of all.

Mr. PERLE. No, no; it is not. I think for the most part, the Department of Defense does not get involved in these foreign policy considerations. By statute, our authority is limited to issues of national security. But the statutes have never inhibited Cabinet secretaries from expressing themselves, fortunately.

Mr. ROE. Would the gentleman yield?

Mr. LUJAN. Certainly.

Mr. ROE. You are making an extremely important point, as is the distinguished Gentleman from New Mexico, which is in my mind; the discussion is not the finding of the Allen Report, necessarily. That is their observation. It only relates to what the business interest is versus the point of whether or not the whole situation had been taken over by Defense as far as export licensing is concerned and so forth.

That seemed to be what the surface was about. What we are really saying here is that there are much broader policy issues involved, which is borne out by the question of the Gentleman from New Mexico, vis a vis, that particular computer.

I sit on other Committees, and you know, Americans are considered to be mad dogs as far as Iran is concerned. So it is a little tough for somebody to take and say, here is the decision that was made, for whatever reason—and I don't want to get into that.

But now let me just ask a question, if I may for just another moment. We just signed an agreement with the Soviets which is very germane to this Committee, and it has to do with an agreed list of cooperative projects in space. It goes through 16 different particular elements, many of which are highly sensitive from the point of view of advanced technology in this country—highly sensitive.

These are to be cooperative agreements in radio astronomy, and so forth. Now the question that I am asking is, how does this all relate? Should we have some other kind of formalized board in this country that starts to talk about decisions that are being made?

I represent XY Company; I am on that list, I can't sell. But if I am part of the contractor that is dealing with this radio astronomy issue here and we have entered into goals to be achieved--and I am not faulting that, by the way –the query is, then, export controls on sensitive equipment and technology no longer prevails.

Mr. PERLE. No, no. This was the——

Mr. ROE. No, no—what?

Mr. PERLE. This was the subject of some considerable interagency discussion.

Mr. ROE. This is interagency. This doesn't have to do necessarily with what the United States Congress is saying at this point. Con-

gress is being called upon to look into this matter to see what could be done to resolve the issue "to give us more competitiveness," things that should not be on the list, and so forth.

All I am trying to get at, and I think the Gentleman is, too; do we have an institutional structure in this country that brings all this into focus?

Mr. PERLE. We do have, as I said, a variety of institutions within the Executive Branch, and of course, we have a dialogue like this with the Congress and ultimately you write the laws and it falls to us to try to implement them.

In the specific case that you are talking about, there was an understanding within the Executive Branch that in the conduct of this program of cooperation in space, we would not alter in any way the existing export regulations so that we will not transfer to the Soviet Union technology that is prohibited for national security reasons, despite this cooperation agreement.

Mr. ROE. That is not what the document says. I am sorry. Gentleman from New Mexico.

Mr. PERLE. But Congress could certainly legislate that and it would be a fine idea, in my view, just in case the next Administration is less careful than this one.

Mr. LUJAN. Let me just, again, in closing say that you have a lot of support from many sides on this issue in the Congress—just because you seen some legislation coming forward, kind of being critical of what you are doing. In relation to what Mr. Roe was saying about our cooperation in the space program.

If you take a look at just their shuttle, alone, for example; how close it——

Mr. PERLE. It looks like ours.

Mr. LUJAN. Exactly. Down to a very few inches.

Mr. PERLE. There is a good reason for that. NASA publishes the blueprints.

Mr. LUJAN. Yes, well then we have to be careful.

Mr. ROE. The Chair recognizes the Gentleman from Louisiana.

Mr. HAYES. I think one of the differences that Chairman Roe was expounding in establishing, merits a short comment before we probably go vote, and that is the matter of differences in perspective.

As a Member of Congress, the perspective by which we judge the issue is one of establishing mechanisms. The perspective of the Department of Defense, in your case, is certainly an appropriate one, and your position is one we respect.

The Department of Commerce has a slightly different perspective and I would suggest that your statements regarding the degree of conflict are probably correct.

We do not have the desire or the wherewithal to dispute either position. The way I view our job is to establish a workable mechanism and I think what is being evidenced this afternoon is the fact that—is there someone who is advocating that CoCom is that workable mechanism? If so, is it workable as is, or doesn't it require treaty existence in order to make it workable?

I would very much appreciate your comments on that?

Mr. PERLE. I think it can and should be strengthened. I think it has been strengthened. The organization that we found in 1981 has

already been improved significantly, but it has a long way to go, in my view.

It needs more resources, more people, more leadership. There is no reason why the American representative to CoCom shouldn't hold a high rank among American diplomats, but we send a low-ranking official to CoCom, and of course, the other governments do, too. One expression of the importance that should be attached to this activity would be to send somebody of ambassadorial rank.

The State Department has chosen not to do that. We have a lot of ambassadors in Paris, as it is, but surely we can afford one more for an activity as important as this. We ought to be pressing our CoCom partners to put the resources into an efficiently functioning organization.

We have had to give them a computer because they didn't have a computer. When you are dealing with a larger number of cases, it is a pretty good idea to modernize along those lines. But most of all what I believe we really need, because CoCom is a mechanism that reflects an effort at working out different national policies, we want to get at those national policies.

So most of what we need is leverage with allied governments, with other exporting governments so that we can persuade them. And while we think we have a very persuasive case to make, it always helps to have some of their equities in your hand at the time you are making your case.

We don't have that at the moment.

Now two years ago, in addressing the Export Administration Act, Senator Heinz had a proposal and I thought it was a pretty sensible proposal. It said that in the event that a company in a CoCom member country violated the laws and illegally transferred technology, we could block imports from that company into the United States.

Now you are a lot more persuasive if you have that law in your pocket than if you have to go and plead with a company in Japan or wherever it may be. That was watered down and by the time it passed, it only applied to the illegal transfer by a company in a CoCom country of technology of American origin.

So if it is not American, no matter how much damage it does to the collective security of the alliance, or of the United States, it is beyond our reach through a mechanism like that. I would hope that Congress would take a fresh look at that, because that is the kind of leverage we need to persuade others to give us that level playing field that our own industry is always talking about—so that they don't make it easy when, for us, it is hard.

Mr. ROE. Can the Gentleman hold on that point?

Mr. HAYES. Yes.

Mr. ROE. Is it fact, in recent reports, that approximately somewhere on the order of magnitude of 40 percent of the materials—I am thinking mostly on electronic materials having to do with electronic chips—that we are now using in our defense systems come in from other countries, namely a goodly portion from Japan?

Mr. PERLE. I am not sure of the precise figure, but it would not surprise me, given the performance of the Japanese microelectronics industry.

Mr. ROE. Thank you.

Mr. PERLE. By the way, here, again, you find policy conflicts because we are under an injunction from the Congress to award contracts to the low bidder. In cases where Japanese products are cheaper than American products, the company that doesn't include them in his bid is unlikely to prove to be the low bidder.

Mr. ROE. As the Gentleman knows, it is not only being cheaper; it is that they have captured the greatly advanced technology in the micro-chip industry. So in effect they are putting out a better product than we are producing in this country.

Mr. PERLE. That is often the case.

Mr. HAYES. What strikes me as bizarre is the fact that we will not—if we're talking about equal playing fields—we won't trust IBM or Rockwell, but we will trust Japan. That is really what it boils down to. We have one set of rules with very strong teeth and criminal penalties for those firms in this country who make a sale abroad, but absolutely nothing—no treaty authorization, and nothing more than lip service to those countries that violate CoCom.

We should do one or the other. We should either completely vacillate in our position on what we are doing at home and abroad—back and forth, and back and forth—or, we should make them somehow have a logical consistency of, at least, we will treat everyone the same.

We should add teeth with a treaty, or am I being unrealistic in that? Having just a rational approach to both our industry and their country.

Mr. PERLE. I think the logic of your position is certainly sound. I think you are making too much of whether this is a treaty organization or an informal organization. It functions on a pretty reliable and regular basis.

The problem is that there are differing standards, and you have put your finger on it. There are some countries where a violation of the CoCom regulations will earn you a slap on the wrist, and nothing more than that. Frankly, there was a long period in which that was the case in this country, as well. We have become much more energetic about identifying diversions and illegal activity and prosecuting it, and intercepting the goods, and so forth.

Others need to do the same. I believe that the way to level that playing field is by bringing others to our standard and not throwing up our hands and permitting the easy transfer of sensitive technology. There is a lot we can do.

We can do it by diplomacy, persuasion, but we also need some real leverage and we have never had that. There has been a reluctance, frankly, to use such leverage as we do have because it means contention of a certain kind in relations with those countries.

Where we have had leverage, we have achieved some really quite remarkable successes. I don't want, in Open Session, to describe the means by which we persuaded some countries to clean up their act, but from to time we have been lucky and we have had something they needed and needed pretty badly, and we have been able to use that to good effect.

We could do a lot more of that. It would help if the Congress would enjoin us to do and mean it. Tell us to go out and level the playing field, and give us some means with which we can do that. The Heinz approach was one, but one could imagine many others. I

can send you a list of ways in which, if we could take some action to deal with countries that are not giving us a fair shake, we would begin to get a fair shake.

Mr. HAYES. For exports from this country, am I correct in understanding that the mechanism now would be that when you apply for your license, if, for reason there is a dispute between Commerce and DOD, that that issue is resolved by the National Security Council? Is Iran an example that would extend to other areas, or is that isolated?

Mr. PERLE. No. You are correct about the form. If it can't be resolved, and there are several steps in the process between agencies, then the National Security Council, which is responsible for integrating the views of many agencies, will make the decision. Ultimately, the President sometimes decides.

Mr. HAYES. Is that, in your opinion, a workable mechanism, or should that mechanism be improved?

Mr. PERLE. I think that is a workable mechanism. I think it is to be assumed that Executive Departments are going to have different priorities and different outlooks, and someone has to reconcile those differences, and only an agency that is not a part of any other department can do that. The NSC I think is the appropriate place.

Mr. HAYES. How long has that been the mechanism involving import license agency disputes?

Mr. PERLE. For some considerable time now, since the mid-1970's. There was a procedure under which, in the event of a difference between the Secretary of Defense and the Secretary of Commerce, the issue would be resolved by the President.

Now, in practical terms, almost all of these issues are resolved at much lower levels of Government, so there has been an interagency committee that has done that over the years, that gets up to the Assistant Secretary level.

About two years ago, we instituted this NSC mechanism in order to resolve specific disputes that could not be resolved interagency and that were not necessarily important enough to go to the President.

Mr. HAYES. I would make one point, and then Mr. Chairman, I will discontinue. What concerns me is, there is also another distinction of perspective that I didn't mention earlier. Agencies look at it in macroeconomic terms; that is in fact used in your statement, and appropriately so.

Those people who contact Congressional offices look at it in micro-economic terms, on the impact upon their particular business. If the mechanism is not sound, then my position, and these gentlemen' and ladies' position, as representatives in Congress, is that if we can't rely upon the mechanism, we certainly don't have the office staff to make the determination for whether or not the process is workable, and in particular, when we get calls and letters from people that our instincts tell us have to be right.

The last ten years of having oil field equipment companies try to explain to the appropriate agencies that you can't do anything with drilling equipment, and now more recently with advancements in seismic equipment where you can do computer reproductions of directional drilling, that no one is going to attack the United States

with that technology and yet they still had to wait on the President to act in order to be able to get some remote semblance of what is certainly low level drilling technology.

Mr. PERLE. In the case of the drilling technology, that was not a national security control. That was a foreign policy control; a response to the Soviet invasion of Afghanistan. So that is an entirely different category.

Mr. HAYES. What you are saying, is that was held up for reasons unrelated to DOD.

Mr. PERLE. That is right. Although with one minor footnote; with respect to certain seismic technologies, there the overlap with certain anti-submarine warfare technologies is such that we want to scrutinize quite carefully the details of the seismic technology involved. And I think industry understands that.

But on the rigs, and low-technology oil drilling equipment, those controls were imposed as a response to Afghanistan and not——

Mr. HAYES. Is the NSC the right agency to sit on top of both, unless we then limit it in its discretion to issues that involve interagency dispute, or do they then add another layer, that being their own present foreign policy opinions at the moment, having nothing to do with defense and nothing to do with commerce?

Mr. PERLE. As I recall, the controls you are talking about, which go back to 1979, were the outgrowth of an order from President Carter at the time, to take some action.

Mr. HAYES. So you are saying, as a policy, they won't interpose additional criteria. That is what I am really trying to ask. Do they add additional criteria or are they really mediating an agency dispute within the confines of the dispute, or are they adding another level of input and discussion?

Mr. PERLE. There are times when the President makes a decision and in this case, the decision was the Russians have invaded Afghanistan, and none of my options are particularly attractive. Let's impose additional controls on exports.

The exports selected to be controlled included oil and gas equipment, and then the departments of the Government were instructed to develop a list of embargoed oil and gas equipment pursuant to that Presidential decision.

Mr. HAYES. Thank you.

Mr. ROE. The Chair recognizes the distinguished Gentleman from California, Mr. Brown.

Mr. BROWN. Mr. Secretary, your statement was extremely good, and I want to compliment you on it. You cover the subject in a rational and scholarly way. It is almost enough to convince me.

Mr. PERLE. Let's try to go that extra step.

Mr. BROWN. You make the point that many factors affect the international bounds of trade and high technology commodities, and that the Panel Report did not take cognizance of those other factors in making the report.

Isn't it true that they were not charged to look at these other factors; that they were charged specifically to look at the kind of export controls that we are talking about here?

Mr. PERLE. Yes, I think they probably construed their mandate a little more narrowly than I would have, if the point was to look at the overall picture. The main point I wanted to make is that we

should not blame the system of export controls for more than that for which it is responsible, which is quite enough.

Mr. BROWN. I agree with you, I think you are quite correct. I merely want to make the point, to extrapolate, expecting this Academy study to cover all these was not necessarily valid. This was not part of their charge.

You make the statement in your prepared remarks that the Academy Study did not have the perspective to judge the relative importance of export controls and other factors, economic performance; and that it is regrettable that the National Academy Panel did not address these issues.

This Committee was impressed by the credentials of the Academy Committee. Secretary Baldrige's statement, issued in February, commented that this was a panel comprised of a former Secretary of Defense, two former National Security Agency Directors, a former Secretary of the Air Force, and other Defense and production experts, and business leaders.

Are you saying that the perspective of these gentlemen is not as good as yours?

Mr. PERLE. No, I am not saying that at all, but I am not sure that their perspective is necessarily reflected in the study.

Mr. BROWN. That the perspective of the Members of the Panel is not reflected in the study that they issued?

Mr. PERLE. I am not at all convinced that it is, having talked with some of the Panel Members.

Mr. BROWN. Where do you think the study recommendations came from, if not from the Panel?

Mr. PERLE. I think it came from the Staff of the study.

Mr. BROWN. Do you wish to substantiate this in some fashion?

Mr. PERLE. It is kind of impressionistic, but I talked to a couple of Members of the Panel, and one of them said he got to one meeting of the panel and another one said he got to two meetings of the panel. One of them concluded there was a lesson in this, and that is, you should not join panels unless you have the time to devote to the activity.

Mr. BROWN. You may be making a very good criticism of panels, in general, Mr. Secretary—not just this one.

However, it is interesting, again going back to Secretary Baldrige's remarks; he seems to jump on the panel's recommendations with great support.

Mr. PERLE. Of course.

Mr. BROWN. You can understand why he would.

Mr. PERLE. I understand exactly why he would; yes.

Mr. BROWN. Shall I quote from some of the things that he said? "What is happening in the international marketplace is a significant and growing shift away from the use of American products. De-Americanization of sorts. Over the years, the costs imposed on U.S. industries have become excessive and the burden too much to overcome. Too many cases. The Commerce Department is undertaking some major reforms and improvement in line with the recommendations made."

He goes on to list 11 of them, including a 20 percent reduction in the number of items controlled. I think in your statement you said that that would be a precipitous and unnecessary step.

Mr. PERLE. A discriminating reduction in which one looks case by case is fine. It is the idea that there is some arbitrary level. It is all very well for the Secretary of Commerce to welcome the recommendations of the report in his sixth year in office, and to undertake reforms to deal with the recommendations of the report.

But this report could have been written six years ago, and one could have gotten on with the job six years ago and we would not be in the situation we are in today.

If you go down to the Department of Commerce and look at the licensing operation; it is the Pickwick Papers down there. They still don't have a computer. Everything is done by hand, in ledgers.

All I am trying to say is that there is a lot of blaming of other people for the mess. In fact, I think the Commerce Department is doing a lot better now than it was before, but this has been their responsibility from the first day of this Administration and there is no reason why they can't modernize their institution the way we have modernized ours.

Mr. BROWN. There is a very good reason, Mr. Secretary, and that is they didn't have the funds the Defense Department had.

Mr. PERLE. They never asked for them.

Mr. BROWN. All right. One of the points that is made over and over again is lack of high level coordination and leadership in the Government over this entire process. You are quite correct in saying that you have done an exemplary job in Defense. Some of the other departments have done far less well.

Now, if this is truly a National problem, isn't there a responsibility by someone in the OMB, or the National Security Council, or the Executive Office of the President, to have taken steps to bring about a better balance in this process, and the failure to do that, is that not an example of a lack of leadership?

Mr. PERLE. I think it is a fair point that all of the institutions that have a piece of this responsibility should have been taking this task a good deal more seriously.

We now have underway, under new leadership at the National Security Council, a study which will be completed shortly. It is not one of these endless studies; it is a substitute for action. It is aimed at producing some recommendations, this month, I believe.

I have a lot of confidence that under Frank Carlucci and Mr. Powell, and others at the NSC now, and Howard Baker, that there are going to be some reforms, and the most useful reform would be to put the mechanism in place to do this thing right.

It means more people and it means computers, and all the rest.

Mr. BROWN. I share your optimism that the changes that have taken place will be constructive and aid in solving this problem. There are some who feel that your departure will also aid.

Mr. PERLE. Well, they are entitled to that view; I think they would be in better shape if they had the mechanism that we have. They may not agree with where we draw the line, but they at least ought to be able to handle a case on an automated basis.

Mr. BROWN. I agree with you. Thank you.

Mr. ROE. I thank the Gentleman from California.

The Chair recognizes the distinguished Gentleman from New York, Mr. Boehlert.

Mr. BOEHLERT. Thank you, Mr. Chairman. I will go off on a tangent at the outset, since you did bring to the floor reference to the agreement signed in Moscow this past week between Secretary of State Shultz and Foreign Minister Shevardnadze. I happened to be there when it was signed and we were all kind of excited that we have some joint agreement on the peaceful exploration of outer space.

Am I hearing something in your response to the Chairman that indicates that you have some reservations about that?

Mr. PERLE. No. I think we have to be very careful in the way that this agreement is implemented because we want it to be confined to peaceful activities in space, and we don't want to create yet another source by which the Soviets acquire military sensitive capabilities.

That will entail continuing to apply some rather stringent regulations as to what sort of equipment we turn over to them. But within those limits, I think it is fine.

Mr. BOEHLERT. Did DOD sign off on that?

Mr. PERLE. Yes, we did.

Mr. BOEHLERT. How much technology do you think the Soviets have gained through espionage, as opposed to through exports?

Mr. PERLE. Well, it is a difficult question to answer, but let me define the terms. If you include under the term "espionage" technology that they acquire illegally, through operations mounted by their intelligence services, for example, then I think it is very considerable, indeed.

If you are distinguishing between blueprints and documents, the kinds of things that spies customarily collect, then I would say less, because just having plans and blueprints is not necessarily very useful.

It is my impression that if you go to a Soviet microelectronics plant that is turning out components for Soviet missiles, the majority of the equipment on that production line is of Western origin and it is all embargoed, or mostly all embargoed, which means that the Soviets have acquired it illegally, very often through quite elaborate schemes.

Some of them are the stuff that novels are made of. The Soviets tried to buy a bank in Singapore not too long ago. Through nominees. It turned out that the ultimate objective of acquiring this Singapore bank is that the Singapore bank was in the process of acquiring a bank in Palo Alto or somewhere in Silicon Valley.

It became pretty clear when we pealed away all the layers that what they had in mind was the kind of information that bankers have about the financial state of chip designers, and the trouble companies are in, and that sort of thing.

I mean, the length that these fellows are prepared to go to in order to tap into Western technology is pretty impressive.

Now if you put that kind of an operation in the espionage category, they get a lot through espionage.

Mr. BOEHLERT. That would be stretching, I think, somewhat.

What is the sequence? Does it go Commerce first, and then DOD? Is it simultaneous referral?

Mr. PERLE. Most licenses never come to the Department of Defense. We are only permitted to review licenses because of an unreasonably restrictive view of the existing statutes.

Mr. BOEHLERT. Would it be the case of Commerce approving something and then seeking DOD opinion?

Mr. PERLE. No, in the case of exports to the Eastern Bloc, we review those cases by statute. We do so now simultaneously, or as close to simultaneously as we can. We could do it faster if we could get two computers to talk to each other, and we are making real progress in that direction.

It used to be sequential which is ridiculous. Nobody ever bothered to say—why don't several agencies start at the same time, instead of doing it one after another? There has been gross mismanagement in this process in the past, but now we do it whenever we can on a simultaneous basis.

In addition to Eastern Bloc countries, there is a list of countries where we have had problems, diversions and uncertainty. The Department of Defense reviews licenses for those countries; at least, we have the option of reviewing licenses for those countries.

Mr. BOEHLERT. Allies, you mean?

Mr. PERLE. They are either allies or neutrals.

Mr. ROE. You have to forgive me; I have another meeting and Mr. Brown is going to take over, and Mr. Boehlert will continue.

Is it fair to make this observation, that as the quarrels seemed to have focused on the process of the export licensing and the timeframe involved, vis a vis, the Allen Report, there is a far more important issue which is the establishment of some mechanism between ourselves and the international participants that has teeth to it—that everybody is playing by the same rules.

Is that a reasonable——

Mr. PERLE. I think that is the key issue, but the two are related.

Mr. ROE. I don't disagree with that.

Mr. PERLE. When you talk to the business community, you hear all the time—I have to wait three months for a license, and my Japanese competitor gets a license in 24 hours, so I am at a competitive disadvantage.

Mr. ROE. I understand that. I just want to make one point for the record, that it appears in the work that this Committee has been doing in all kind of jurisdictional relationships between committees, the argument focused initially on the observations of the Allen Report which came out and in effect said we should streamline this process, and what we should be doing is giving us more latitude and breadth to be able to get international competitiveness. We feel the process is cumbersome and it takes too long.

That was the focus primarily, but it seems to me as a result of the hearings that we have been having that the relationship between our partners in CoCom is not, as you said, it is not a level ball field at all. There ought to be some material strengthening of that material process as the core of the issue.

Mr. PERLE. I agree with you.

Mr. ROE. Okay. Would the Gentleman from California take over?

Mr. BOEHLERT. How often have we had examples, Mr. Secretary, where Commerce has approved something and the Defense Department has disapproved?

Mr. PERLE. Not nearly as often as newspaper accounts about the quarrels between us would suggest.

I can't give you a figure, but it is a small number of cases. That is a little bit misleading because we don't wait until the end of the process—we are talking to each other.

Frequently the exchange of information and views and advisory opinions and past precedence and so forth skews the statistics a little bit. But it is not all that often that we disagree.

Mr. BOEHLERT. Finally, just this one last one. Briefly, and I know this is a difficult thing to respond to briefly, but the Administration has some differences with the Allen Panel Report in terms of recommendations. What are the major differences?

Mr. PERLE. My major concern with the report is that it does not put sufficient emphasis on the extent to which the problem that it discusses could be resolved by more effective administration of the existing system.

It places too much emphasis on removing commodities and technologies from control, which I think has to be done but on a discriminating basis and not on a wholesale basis; and I think it underestimates the extent to which we could improve the competitiveness of American industry by the timely delivery of licenses that had been subjected to a serious review on security grounds, but because that review has been conducted by organizations that are modern and competent, it can be done in a reasonable period of time and indeed it can be done as quickly as it is done in some other countries.

I think if you could solve that problem, then the amount of mail you get and the number of constituents you have coming in to complain about the process would drop radically.

Mr. BOEHLERT. It is not only the constituents, the business constituents particularly, but as you well know, and you have been to some of the NATO meetings, the North Atlantic Assembly, all our friends, our allies, are complaining all the time about our process.

They say if this is the way you deal with your friends, in West-West sales, what is the benefit of friendship?

Mr. PERLE. But what I find ironic, and more than ironic—frankly, I find it a bit annoying—is that the department of the Government that has the responsibility for administering this system, which for many years has allowed it to become a backwater with respect to its overall responsibilities, now finds that the complaint is massive and their solution is not to improve their own administrative structure, but to argue that the Department of Defense should play a lesser role.

I am convinced that the solution to much of the problem is to hire the number of people you need to issue licenses in a timely fashion, invest some money in computer software and the kind of analysis it takes to enable cases to be screened by computers, and deliver the kind of performance that Defense is delivering.

Now I am being far more candid than it is probably wise to be.

Mr. BOEHLERT. Yes, I think maybe you probably are, because it is somewhat disappointing, because the business community that we are trying to serve doesn't give a damn, quite frankly, about internecine warfare between Commerce and DOD, either do our friends

in the NATO nations, and we should speak with one voice within the Administration.

We should not be fighting department to department, and that is what is happening.

Mr. PERLE. I am quarreling with any report that fails to recognize the extent to which the problem could be solved by more efficient administration of the existing system.

Mr. BROWN [presiding]. Mr. Konnyu.

Mr. KONNYU. Thank you, Mr. Chairman.

Mr. Perle, I have watched you often on television and I have admired the strength of your convictions and your ability to sell your thoughts both within the Administration and to the American people.

Mr. PERLE. Thank you.

Mr. KONNYU. I am sorry to see that you are leaving. I think that you create a balance in the debate in the Administration which is necessary for America and I hope your successor will continue that style of effort.

With respect to the issue at hand, as Mr. Boehlert clearly said, the American business community simply don't give a darn whether it is Defense or Commerce that is causing the kinds of competitive problems where a Japanese or German firm gets the sale delivered first, and the American firm ends up second.

All they know is that there are losses in sales, and of course, the Allen Report quantified it as $9 billion and 200,000 jobs. Proceeding on those figures—and that is a tremendous loss to America.

As you may know, I represent Silicon Valley, the 12th Congressional District, where many of these 200,000 jobs were lost.

Mr. PERLE. I think that figure greatly overstates the effect of export controls. I am not at all happy about the loss of employment in this area of technology. I think this area of technology is vital to the Department of Defense. We don't want to see anything done that is going to depress our efforts.

Mr. KONNYU. Some have argued successfully that that loss of $9 billion in sales, and 200,000 jobs, is in itself damaging to America's security in the sense that we don't have that base that we otherwise would have.

One of the thoughts that I have had in trying to solve this problem and meet the security needs, and at the same time improve significantly meeting the needs of America in terms of jobs and sales of high technology products is you have a dual track of exports to Soviet and non-Soviet countries. That is, with respect to Soviet Bloc, the current processes, with perhaps computerizing Commerce, would be continued.

With respect to non-Soviet Bloc exports, the current list would be reduced as to administration, down to 80 or even 70 percent of what it is now where the current processes would continue. Then with respect to the 80 or 70 percent that would be left on the list, companies would be allowed to license themselves for export.

In other words, self-licensing, and if they violated the process by whatever means, that they would get a warning and the second time they would go on the list of full administration. Then, of course, finally if the company in Germany to whom we sold a product would re-export this to a Soviet Bloc country, Warsaw Pact

Country, then that country's administration of export licensing would of course be required to administer the same punishment that we would to our own companies.

What do you think of that concept of a solution? Senator Sam Nunn, you know, mentioned something similar to that.

Mr. PERLE. I think the idea of relying on companies to exercise real caution in what they export, and giving them a little more freedom to export at the same time makes sense. There is a difference between large companies that can handle that responsibility and small companies that can't.

I think one has to take that into account. So we have been talking about what we call the "gold card" arrangement, that is, companies that have a demonstrated capacity to reflect the rules and regulations carefully, would be given more freedom than companies without that track record.

But as you have just described it, it seems to me the likelihood is that we would suffer additional losses. The penalties don't sound very impressive. I don't think we can count on the West Germans to impose penalties that are significant enough to deter. It is not frankly well defined enough for me to——

Mr. KONNYU. We can't count on them now, if that is the case with respect to their own firms and their own exports.

Mr. PERLE. If you ask the West German Government, they will say that they apply the CoCom list, just as we do, and that they are vigorous in enforcing that. I don't believe that. I don't think they have the resources; I don't think they have the manpower; I don't think they have the will.

I think the organizations responsible for enforcement are the organizations that are least inclined to do so. I think we need to be talking to our allies, Germans included—the Germans are certainly no worse, and in some ways they are better than others—we ought to be talking to our allies about improving the enforcement mechanism and assigning the people necessary to scrutinize these license requests so that they get the kind of vetting that they deserve.

I would be very careful about going too far, particularly with respect to the very high technology that we are talking about. It will have enormous effect on Soviet military——

Mr. KONNYU. Certainly. That is why I was very careful to say that those would be of the greatest value to the Soviets, presumably the top 20 or 30 items, the current controls would stay on and then the rest would be a self-licensing if the action was an export to a non-Soviet Block country.

Mr. PERLE. First of all, there are distinctions to be drawn among non-Soviet Bloc countries and they are not all sensitive to our security needs. Even those that are, there are differences in their ability administratively to handle the problem.

I don't think I would want to distinguish quite so simply between the Soviet Bloc and non-Soviet Bloc. I would want to look country by country, and what I think is likely to prove even more effective, company by company. If you have a responsible company that takes some care not to sell to a storefront, then I think you can go a lot further with that company.

But we have had situations where people came in after very serious diversions, and they said they were victimized; they thought

that they were selling to a legitimate entity. You start questioning about this legitimate entity and it turns out that the fellow had a perfectly plausible explanation for why he didn't have an office.

When you ask where you met him to talk business, you met him in a cafe, and he paid with cash, but we thought this was a legitimate transaction and we feel as badly about it as you do. There is too much of that going on.

Mr. KONNYU. That goes on now.

Mr. PERLE. Yes.

Mr. KONNYU. Mr. Chairman, I did want to stress the notion that basically was first stated by Senator Nunn, which was that if we reduce the list currently, in terms of tight controls, to significantly lower levels, and then administer a lower level of controls for that larger list that would not be tightly controlled, that we could probably meet our secure needs just as well, and we would become more effective in meeting America's production needs, which indeed are part of our security base.

Thank you, very much.

Mr. BROWN. Mr. Hall.

Mr. HALL. Thank you, Mr. Chairman. Mr. Perle, earlier in some of your answers to Chairman Roe, when you were talking about the Heinz Amendment, you indicated that you could—that there were a lot of ways to prevent illegal transfer of technology, or transfer that is not favorable to this country. I gleaned from what you were saying that you probably had some suggestions or you might make us up a list that might enable us to level the playing field, as the term is used.

I would welcome that, and I would like to have it. I will tell you why. We have a new Subcommittee on Science, Space and Technology called International Scientific Cooperation, of which I am a member. I think that would be helpful to us, and I would like to ask you to do that.

Mr. PERLE. I would be glad to do it.

Mr. HALL. And while we are really probing, I know you are aware of the turf battles that take place. You have more than a passing knowledge of them and, hopefully, how to solve them. We have that to face us because we are easing into a lot of other people's area, but some of the things that we are pursuing, technological initiatives that we think are of import to this country, and of import to the work that we are doing that will involve international cooperation, SDI, the Superconducting, Super Collider, the Space Station, fusion, energy research and the line goes on and on.

How is the Administration coordinating its policy toward these projects to ensure the cooperation of all the agencies? We have seen a division of ideas from both Commerce and State, and both of them helpful and probably have a legitimate complaint or position to take, but how are we going to ensure the cooperation that we need there while still protecting the national security?

Just give us a brief position on that.

Mr. PERLE. I think on the broad policy issues we have not coordinated nearly as well as we should, to be frank about it. I think one of the reasons for that is that each of these cooperative programs involves some department of the Government whose principal mission is to do something else, and then they get off into this diplo-

matic area and they may or may not be sufficiently conscious of all the considerations that should apply.

So this is an area that requires interagency coordination.

Mr. HALL. Is there a lead agency? I think you have already set out that if two are in disagreement, that perhaps the National Security Council, or even up to the President would reconcile it.

Mr. PERLE. If the subject matter includes the word "international" then the Department of State considers that it is the lead agency. The agencies that are often most important in the process are the ones that are going to manage the program if the program is agreed to. So obviously on something like space cooperation, NASA is terribly important.

Mr. HALL. We have had situations where in private enterprise, we would go through the Department of Commerce, and they would be very helpful and cooperative with us in international sales, for example, and then for reason, State would stop it.

I think I see a warning and a danger sign there in that I believe the matters that we are talking about here, SDI and any type of international cooperation, or if we work together with the Soviets on a space station—DOD obviously has some concerns about that, and they have expressed that at the LANDSAT testimony a week or two ago.

If we are going to have any kind of interagency feuds, or differences, it is important that these not erupt after prospective foreign partners that we have enticed into spend some of their money, after they have invested significantly.

Mr. PERLE. I agree with that entirely.

Mr. HALL. How can we handle that?

Mr. PERLE. Well, one way to handle it would be to establish a pretty clear and a pretty broad policy in advance so that you don't have departments discovering six months into negotiation, that a negotiation they did not know existed was in fact that far advanced. That has been known to happen from time to time.

We are a large Government with a lot of departments, and with many of them involved in international cooperative programs, and sometimes things go wrong. But we could improve and should improve the interagency coordination on these kinds of issues, because they are difficult issues.

You take the question of the space station; should we have the right—it is going to be a lot of our money, $8 to $10 billion—and a much smaller amount of other people's money; shouldn't we have the right if we want to conduct a national security experiment on that space station to do so?

I think we should. We certainly shouldn't give any other country a veto over our right on our space station, that we have invited them to participate in, a veto over our activity.

Mr. HALL. Isn't it really about time to hammer that out; to make that decision and get the lead agency, whoever it might be, to come up with a decision on that?

Mr. PERLE. By the time we were, at Defense, were fully aware of that negotiation, people took the view that it would be too demanding to insist that other countries not exercise a veto over our right to do defense research on our space station.

Now I think we have it worked out, but it was a painful process.

Mr. HALL. Well, it sure would be helpful if we came with a solid front.

April 15, Secretary of State Shultz signed a U.S.-Soviet five-year agreement for Civil Space Cooperation, an agreement that had been lapsed since 1981 or 1982. I think the inevitable technology transfer that is going to be involved there is going to give you and your department some concern, and that you may take the position that it constitutes a national security risk.

Take that position, and let's get it out on the table and reconcile it before we get $5 billion further down the road.

Mr. PERLE. I would hope this isn't going to be a $5 billion program. But we were involved in this, and as a matter of fact, the original proposals were worked on an interagency basis, and very successfully, and the Defense Departments had some concerns and those concerns were met in the interagency process. So we fully supported the agreement that was finally signed.

This agreement, unlike its predecessor, is very precise. It identifies the 15 areas, or 13 areas, in which joint projects will be developed. We looked carefully at those projects to make sure that the risk to national security was minimized.

The agreements of the past were such broad statements of cooperation that all kinds of unfortunate things took place under those broad umbrella agreements. We argued for an agreement that was precise and whose effects we could anticipate in advance.

I think this is a real success story, because at the end of the day we were a united front and we did have a common position and we were able to negotiate that.

Mr. HALL. Are you aware of the fact that we are about to pitch away a $1.5 billion expenditure in LANDSAT alone if we don't move in and do something? To the French or Japanese, and then we will rely on them. I think that would certainly constitute a real national security risk. That is $1.5 billion; you say $5 billion is too much.

But I think it is important to us as a Committee, none of us want to endanger national security or to involve a risk, and yet we want the transfer of technology in order to receive the transfer of technology. Give us some help on that.

Mr. PERLE. The principle of reciprocity is a terribly important one. My concern over the years in dealing with the Soviets has been that the flow of technology has been one way. That is, they have received it from us and we have gotten very little back. But I think we are going to do better from here on in. I hope so.

Mr. HALL. Thank you.

Mr. BROWN. Mr. Slaughter.

Mr. SLAUGHTER. Thank you, Mr. Chairman.

Mr. Perle, I, too, want to commend you for your distinguished service to this country in the last six years in the Department of Defense. I, too, am sorry that you are leaving.

I would like to ask, is there any reliable estimate in your opinion in dollars or percentage of the volume of exports to this country that have been blocked by the Department of Defense under this licensing authority?

Mr. PERLE. I don't have a figure, but you would be shocked at how small it is. We are not talking about much.

Mr. SLAUGHTER. If you could find that figure and send it to me, I would appreciate it. Sometimes we do hear opposition, talking about very large sums of money lost by American industry because of this flaw in the application of exports.

If, as a matter of fact, if foreign availability could be and was the deciding factor in whether or not you are granted a license, doesn't experience show that that would just render useless most of our enforcement efforts?

Mr. PERLE. Well, it is certainly the case that you cannot expect successfully to control something that is widely available abroad. We all recognize that.

On the other hand, it is not enough to utter the words "foreign availability" because frequently they are uttered in a self-serving way. So the most useful thing we can do and should do, to satisfy ourselves where there is an assertion of foreign availability, that there really is foreign availability.

Obviously, if there are a dozen other suppliers of the commodity and that commodity is not controlled, because all the countries involved agree that it should be controlled, then there is not much point in our holding onto it.

Now there are going to be exceptions; cases where the transfers just strike us as so odious that we wouldn't do it. I can remember a case a few years ago, when I was working for Scoop Jackson. He learned one day, read an article in the newspaper, that a number of American companies were going to go to Moscow and exhibit with a view to selling equipment developed for law enforcement purposes.

He found it so disagreeable that we would be selling the Soviet secret police the technology with which to do a better job, that he argued we shouldn't do that sale. Now, they can get the same stuff in other countries, but if other countries wanted to permit their equipment to be used by the KGB, that was up to them. He didn't want any part of that.

So from time to time you get special cases where there are reasons that have nothing to do with national security. But obviously, if they can buy something anywhere in the world market, there is not much point in trying to hold onto it, for the most part. But we have to be sure of the facts.

The only way to be sure of the facts is to have enough people pouring over them so that you can accumulate them. I don't know how many people at the Department of Commerce spend full-time working on foreign availability analysis, but I am sure they could use more help.

I know we could use more help to do that job.

Mr. SLAUGHTER. In the case of technology exports to China and India, which I believe in some material we have here, or I believe in your statement, that it has sharply increased in the last several years—would a good part of that technology be appropriate for military applications?

Mr. PERLE. We have been selling to China technology that could be used for military purposes; less so with respect to India. And that has been a conscious and deliberate decision that I think reflects the view that China does not pose a military threat to the

United States in the way that the Soviet Union poses a military threat to the United States.

Mr. SLAUGHTER. I have no further questions, Mr. Chairman.

Mr. BROWN. Mr. Skaggs.

Mr. SKAGGS. Thank you, Mr. Chairman.

Mr. Secretary, in your response to an earlier question you indicated that our ability to be persuasive to the other members of CoCom was a bit hampered because of our superior intelligence resources, and their having to take our word for the significance of certain items, particularly in the Soviet scheme of things.

Is there a way to improve that situation, either directly in the operations of CoCom, or in enlisting the support of the intelligence agencies of our allies in order to better advise their representatives there?

Mr. PERLE. Yes, there is, indeed. We have been trying to do that. One form, or proposal that we made, it took us about five years to get it accepted, was that we should establish what we thought of originally as a security subcommittee of CoCom that would examine these issues collectively so there would be a broad sharing of information.

Something like that has been created and they are in fact working on a number of areas of technology and I think that process is going to lead to the diffusion of intelligence and a more sophisticated view of these issues.

We hate to be—we always have the bad news. I can remember one case, a fascinating case, where a company in Belgium had an important and sophisticated machine tool that it was about to ship to a plant near Leningrad. We just happen to know that that plant was turning out SS 20 missiles, and they were marching in the streets in Belgium on the intermediate nuclear missile issue.

So here was the Belgium Government about to authorize the sale of that equipment without knowing that it was going right into an SS 20 plant.

We had long consultations with them and we found a solution in the end to that problem because they want to supply the SS 20 with a more efficient machine tool for better production.

So we are often the bringers of bad news; the ones who say, "Wait a minute fellows. The sale you are about to conclude has implications you didn't understand." So we get cast as the heavy and in fact it is because we make an investment in collecting this sort of intelligence that some of our allies can't afford or don't make themselves.

Mr. SKAGGS. On a different subject. I am trying to get a handle on how you all in Commerce and State operate in this area. I infer that there is at least some duplication, if not triplication of at least the data base of information necessary for your respective policy decisions to be made.

If that is so, is there any merit in looking at least in some way of developing a unified data base from which all three departments could draw information?

Mr. PERLE. Yes, there is indeed. We ought to be doing much more of that.

Mr. SKAGGS. Any concrete suggestions, or anything in the work in that regard?

Mr. PERLE. The Administration is committed—and a lot of my complaint here has to do with the past. I don't want it to be overstated.

The Administration is committed now of trying to net the various departments in these terms as effectively as they can. We are prepared to share the software that we have developed, which is specialized for this purpose, with other departments and to share data with other departments.

We look forward to doing that to make the whole system more efficient.

I have to tell you, as a personal view, and nobody likes this view and it is not the Administration view, but the sensible, logical way to go about this business would be to have an agency that handles this problem. Not Commerce, not Defense, not State, but a licensing agency.

That is the sensible way to do it, but that is bureaucratically impossible because none of the departments that have a piece of the responsibility are going to relinquish it. So this Administration is opposed to having a single agency that is the U.S. Export Licensing Administration, which would be in my view the practical and efficient way to do it.

Mr. SKAGGS. Would it be helpful for the development of at least common data approach to have some explicit legislative urging?

Mr. PERLE. Yes, I think it would be useful to encourage the broadest possible sharing of data, and agencies should be urged to get on with the task and invest the funds necessary to do it.

We are not talking large sums of money. We are talking about a little bit of money for an administrative structure that is processing licenses worth tens of billions of dollars a year. If the figures we have heard are anything like correct, $7 billion in losses, then surely we ought to be able to invest $7 million to preclude those losses.

I think you could do a lot with $7 million added to the Commerce Department budget.

Mr. SKAGGS. Thank you, very much. Thank you, Mr. Chairman.

Mr. BROWN. Ms. Morella.

Mrs. MORELLA. I also want to add my voice in terms of congratulating you on the job that you have done and hope that you will continue with your commitment. I guess, the candor—having read your testimony—I wasn't here when you gave it—your candor in terms of commenting on the Report by the National Academy of Sciences, and I am curious about what measures we, as a country, have urged the CoCom members to institute to deal with the problem that you say the National Academy of Sciences didn't really deal with that much, the reexport of the embargoed commodities from the non-CoCom to the Warsaw Pact countries, et cetera.

I mean, I understand we require licensing, et cetera, and this was not anything that truly was looked at in depth by the National Academy of Sciences. I wondered what suggestions you might have, Mr. Perle.

Mr. PERLE. We have been encouraging them, and in fact we have been working in Paris on a variety of measures, the harmonization, for example, of the way in which regulations are promulgated so that they are all more or less the same.

We have been urging the Customs Services in the respective countries to take the responsibility more seriously of examining what is leaving the country and looking beyond the documents to see whether they are dealing with a legitimate concern or not.

We have been trying to get third countries and countries that are not members of CoCom to participate, in effect, along with CoCom member countries.

Now about the only way we can persuade some of these countries is by telling them that if we don't have confidence that they are going to protect our technology, we are not going to license our technology to that country.

We need other ways, we need other incentives and we need disincentives, too, frankly. I have already agreed to provide some ideas. I think that we can go a lot further with our allies than we have been able to go this far.

But we need some authority to interest them in our proposition and to create interests on their side that parallel our own.

Mrs. MORELLA. And you think that this Committee can give you more authority, or do you?

Mr. PERLE. I think the Congress can certainly give us more authority, and I know we are not going to get it from Don Bonker because he doesn't take this problem seriously. So somebody else ought to do it.

Mrs. MORELLA. Thank you. Good luck in pursuing it. Thank you, Mr. Chairman.

Mr. BROWN. Mr. Price.

Mr. PRICE. Mr. Secretary, I wonder if you could just lay out for the Committee the kinds of technology the Soviets are most aggressively seeking. What kind of information do you have about that? Do we have good information? Is it possible to generalize about that?

Mr. PERLE. Yes, it is. We have remarkably good information, some of which we can share on a classified basis, but we put out a report not long ago that identified rather precisely the areas the Soviets were principally interested in.

They are things you would expect, microelectronics, scientific instruments, computers, materials, technology; all of those things that go to support a military structure, because the cream of everything imported into the Soviet Union goes right to the military and that is where their priorities are and that is what is reflected in the illegal transfers that we manage to detect and intercept.

The Soviets in particular realize that information and the processing of information is vital to the conduct of military operations. It is not just computers on the battle field, it is signal processing, the manipulation of information to design weapons systems without actually having to build and test them; computer-aided design and so forth.

They can't produce this on their own, so they steal it. It is all embargoed, or practically.

I referred to a case before you came in, in which the Soviets managed to acquire illegally, with the collaboration of companies in two CoCom member countries. They managed to acquire highly specialized equipment and software for the production of superquiet propellers, and as a result, the United States Navy is going to

have a much more difficult time detecting Soviet submarines, and we are less safe.

They made a few million dollars on it, and it is going to cost us billions to compensate for that.

Mr. PRICE. How is it that that transfer took place?

Mr. PERLE. It took place because some despicable individuals in two countries secretly negotiated—they knew what they were doing and conspired to make this stuff available, despite the regulations. I am talking about the transfer of machine tools that are half the size of this room and highly specialized software; the combination of the equipment and software was intended for and is now today producing super-quiet submarine propellers.

I mentioned it as an example of the disproportion between the benefits of the trade and the cost to our security and the security of the same allies whose companies perpetrated this.

Mr. PRICE. I gather that you have identified computer and semiconductor industries as particularly sensitive and particularly sought after. We have had it alleged that the decline that these industries have suffered, a decline from an $8 billion surplus to an equivalent deficit in five years, that export controls have exacerbated that situation.

Regardless of the case one might make for those controls, do you accept that view?

Mr. PERLE. No, I certainly do not. I think the export controls have had a marginal influence. I think other factors have been far more important. The truth is there are a lot of different explanations.

You can't have the semiconductor industry say that the reason why we are in trouble is that Japanese are dumping semiconductors in the United States, and then turn around and say the reason that we are in trouble is that we are not being permitted to export semiconductors.

If they are out-selling us in the U.S., how are we going to beat them abroad. The industry has problems and I am sympathetic to their concerns, but it is factually wrong and it would produce unwise policies to blame the national security controls for all the ills of the microelectronics industry. I think there are some people getting carried away here and rushing to tear down a security structure that needs to be improved and can be improved and can be run efficiently and effectively because this year's buzzword is competitiveness.

There is not a lot of serious analysis. It is always a mistake when legislative bodies rush to solve a problem in an emotional way, and I think there is a certain amount of that—what I have been hearing anyway.

Mr. PRICE. Perhaps, but there is a kind of elusiveness about these estimates of what is to blame for the decline, what are the factors and what is their relative weight.

What kind of data do you have to support your claim that this is really a relatively minor matter?

Mr. PERLE. Well, we are obviously not talking about sales to the Eastern Bloc. We are talking about whether U.S. exports to non-Soviet destinations have been impaired by the export controls system.

You would have to assume in order to make an estimate like that that if you remove the system of controls, but still keeping in place controls to protect our security, because the Allen Commission is not suggesting that we sweep away all the control, that that one action of loosening controls would produce a $7 billion delta in the sale of microelectronics abroad. You just state it that way, and you don't believe.

He is not talking about committing all kinds of things to be sold that can't now be sold. He is talking about improving the process, and I am all for improving the process. But the way to fix it—the principle that I keep coming back to because I have been listening to it for six years now—and longer than that, in fact—the principle concern of the business community is that they are delaying.

They have an order in their book and they want to ship and it takes six or eight weeks, or whatever it is; and while they are waiting to get the clearance, some Japanese firm has come in and they got their license in 24 hours and they can deliver the day after tomorrow. So they get the deal and the business and we don't.

You can solve the problem of delay. First of all, I don't believe the Japanese do it in 24 hours. I keep hearing it but I haven't seen any evidence to support it.

Second, we don't delay quite as badly as people say we do. The figures are better than they appear to be. But third, there is no reason why we can't significantly diminish these delays.

I indicated earlier that the Defense Department is turning around 60 percent of the licenses that it passes in 48 hours because we are automated and you would think that would be the most elementary first step that industry would cry out for.

But industry for years has been complaining about the system instead of trying to fix it; very uncharacteristic of people who run companies where they fix things when they are broken. By fixing it, by hiring 145 people and training them and putting computers in and giving a sense of mission to the people at the Defense Department who do this, and giving it some leadership, we are solving the problem and other agencies can solve the problem in the same way without throwing out the baby with the bath water.

My plea is to make the system work and not tear it down. You know, if we reduce the extent of the controls and we free up things to be sold that are not now permitted for sale, you are still going to get delays. If you have an incompetent administration of the system, it is still going to frustrate and annoy and you are going to get the complaints that you are getting now.

The quickest way to solve this problem is to redo the administration of the system and that is largely the responsibility of the departments other than the Defense Department. We want to be sure that we do not contribute to the validity of the complaints that the business community has and we made the investment to make that happen.

I think we have succeeded.

Mr. PRICE. Thank you.

Thank you, Mr. Chairman.

Mr. BROWN. Mr. Hall.

Mr. HALL. Mr. Secretary, we talk about playing fields—I get back to that, and how to level them and how the Japanese out-produce

us and out-sell us and we have a very bad balance of trade with them.

Back in 1945, MacArthur extracted from the Japanese Government an estimate that said they would no longer make war and entered into a treaty, a protective treaty that you re-enter each five years; is that correct, that both countries ratify that every five years, still?

Mr. PERLE. I am not sure about that.

Mr. HALL. Just assume that they do.

Mr. PERLE. They may not ratify it this time around.

Mr. HALL. I think that might be a good idea, might give rise to a little more level playing field. What is your feeling on us letting the Japanese defend their own country? We have aircraft carriers, and cans and other things defending their shores today, and they spend very little of their gross national product defending it. We spend an awful lot of ours.

The money they don't spend on defense, they spend subsidizing their industries to the detriment of ours. We lost 3,500 jobs at Lone Star Steel, and then 60 percent of our work force there in East Texas two to three years ago.

What is the likelihood, and what is the back side of this country not re-entering into that protective agreement?

Mr. PERLE. I am not aware of the details of the agreement and I am not responsible for dealing with Japan in the Department of Defense. But I will say that I think it is a scandal that Japan makes so small an effort to contribute to the overall defense to the community of democratic nations.

This is a powerful and rich country and it is spending one percent of its GNP on its own defense and very little to assist other Western countries that are part of the Alliance of Democratic States to provide for their defense.

Now there are a lot of Japanese excuses and there are deep psychological factors, and so forth. We have been hearing about that for years. They also want to keep their money in their pocket.

Mr. HALL. And doing a pretty good job.

Mr. PERLE. And doing a pretty good job. I think it is entirely fair to ask the Japanese to pick up a fairer share of the burden of the Western democracies.

We are protecting their markets, we protect their sea lines of communication. We protect their security, along with ours. I think their security is in our interest, so I would not punish them without effect. But we could and still have a much more vigorous way of getting them to share the bills.

Mr. HALL. Historically they have been a good bulwark against China and Russia. They have certainly known how to deal with them. Would you be fearful of seeing the Japanese military build back up again?

Mr. PERLE. I think there are sensitivities in Asia, the depth of which I can't measure; I am not expert on that.

Look, there are lots of ways the Japanese could help. There are things they could contribute to NATO as a whole, to the Western Alliance as a whole. They make terrific communications systems and NATO desperately needs communications; let them supply that. It is non-lethal, if there are sensitivities about that.

They could supply assistance to some of the poorer countries of the NATO Alliance. We have a security assistance bill that has been disastrously cut and it is going to have a terrible effect on some of our poorer allies—Turkey, Portugal, to mention two.

Mr. HALL. When MacArthur told them not to make war anymore, they said—okay, we make Sony, we make Honda, we make Toyota; they do a pretty good job, don't they?

Mr. PERLE. That is all right. They are productive and inventive and creative.

Mr. HALL. With our money.

Mr. PERLE. But they could pay a fairer share of the bills.

Mr. HALL. I agree. Thank you, Mr. Chairman.

Mr. BROWN. Thank you, Mr. Hall.

Mr. Perle, you have been one of the best witnesses I have ever heard before this Committee and I appreciate it, very much.

Mr. PERLE. Thank you, very much, sir.

Mr. BROWN. The Committee will be adjourned.

[Whereupon, at 3:45 p.m., the Committee was adjourned.]

[Additional material submitted for the record follows:]

APPENDIX A

NATIONAL ACADEMY OF SCIENCES
NATIONAL ACADEMY OF ENGINEERING INSTITUTE OF MEDICINE
COMMITTEE ON SCIENCE, ENGINEERING AND PUBLIC POLICY

13 May 1987

Dr. Kevin Kennedy
Committee on Science, Space, and Technology
U.S. House of Representatives
House Annex 1
Washington, DC 20515

Dear Dr. Kennedy:

Further to my last correspondence of 15 April, responding to the written questions posed by Chairman Roe, I write to correct the record of your supplemental hearing on the subject of national security export controls that was held on Thursday, April 23, 1987. At that time, Assistant Secretary of Defense Richard N. Perle offered both prepared and informal remarks pertaining to the recent report of the National Academies of Sciences and Engineering and the Institute of Medicine. In his testimony, Assistant Secretary Perle asserted that a "serious staff error" had been made in the facts presented in a footnote on page 114 of the final report. The item in question read, in part, as follows:

> "One U.S. company prepared for the panel a detailed chronology of a license application that was ultimately approved after 910 days extending from March 1983 to November 1985." (emphasis added)

Mr. Perle indicated his view that it was impossible that a license approval could have taken this long and that, had the Academy staff checked with the Department of Defense, they would have been able to obtain the correct information.

I would like to respectfully request that two important points of information on this matter be added to the record of your hearings:

1. As indicated clearly in the highlighted phrase from the report quoted above, the information used in this footnote was drawn directly and without alteration from the chronology prepared by the company itself. Thus, there was little or no possibility of an error since the Academy staff had no part in researching or writing the report which the company subsequently made available to the Academies.

2. As to the assertion that the Academy staff could have obtained the "facts" if an inquiry had been made with the Defense Technology Security Administration, it must be pointed out that, in February 1986, Dr. Stephen D. Bryen, Deputy Under Secretary of Defense for Trade Security Policy, instructed his staff to provide no further substantive cooperation of any kind with the Academy study. Thus, even if there had been a specific need to obtain information on this matter from the Defense Department, which there was not, it would not have been possible for us to do so.

There are certainly many important, substantive issues contained in the Panel's findings and recommendations on which reasonable people may disagree. However, I do appreciate the opportunity to set the record straight regarding this particular allegation which, as the facts demonstrate, is both unfair and unfounded. Thank you.

Sincerely,

Mitchel B. Wallerstein
Project Director

cc: Lew Allen, Jr.
Anne Keatley
Allan Hoffman

APPENDIX B

UNITED STATES DEPARTMENT OF COMMERCE
International Trade Administration
Washington, D.C. 20230
ASSISTANT SECRETARY FOR TRADE ADMINISTRATION

May 14, 1987

Honorable Robert A. Roe
Chairman, Committee on Science
and Technology
House of Representatives
Washington, D.C. 20515

Dear Congressman Roe:

Thank you for the opportunity to comment on some of the issues that were raised at the Committee's April 23rd hearing on the export control impact on international technology transfer. I regret that I was out of the country on that date and so was unable to testify. I read the transcript of the hearing with interest, and would like to set the record straight on certain statements alleging Commerce's lack of automation.

The Office of Export Administration, which I oversee, processes over 100,000 export license applications each year, representing over $70 billion of U.S. high technology exports. Automation has been our answer to process license applications as quickly and efficiently as possible. The system supporting the export licensing and control function is the Export Control Automated Support System (ECASS), which went on-line in March 1985. ECASS replaced the old License Accounting and Retrieval System (LARS) which we found to be inadequate for our needs. ECASS is driven by a powerful IBM 3033 mainframe computer that processes 5 million instructions per second.

As it exists now, ECASS is an interactive data base consisting of some 15 million records relating to 800,000 license applications, 220,000 consignees, and 50,000 exporters. This data base is the core of the U.S. export licensing system. Without it, the Department of Defense would be required to manually process all license applications we refer to them. Their recent decision to automate was an excellent one because it permits them to receive and access data we electronically transfer to them on a daily basis. If DOD had not automated, they would have no means to access ECASS and could not electronically process cases.

Commerce also pioneered the first automated System for Tracking Export License Applications (STELA). In fact, perhaps no ECASS feature underscores better the progress that has been made since 1984 than STELA, which went on line in October 1986. STELA is linked to ECASS and gives exporters the location and status of licence applications by automated, synthesized voice response. STELA now answers some 1,200 status questions each day, and is available to exporters sixteen hours a day on week days and 8 hours on Saturday. The business community has been extremely happy with this system, which lends some transparency to the licensing process and enables them to monitor their applications on a daily basis. We are pleased that Defense has just installed a similar system of their own; the business community profits by such action.

In addition to our automation enhancement program, Commerce has also instituted a number of changes that have resulted in a steady decrease in license processing time. For example, in the first quarter of fiscal year 1986, non-referred cases (processed by Commerce only) took an overall average of 17 days; in the second quarter of 1987, the average processing time was reduced to 13 days. Cases that must be referred to other agencies and to COCOM, of course, take longer.

In closing, I would like to assure you that we place the highest priority on automation. ECASS continues to evolve; in the near term we hope to replace manual, key punch data entry with optical character readers, which should eliminate any human errors. Over the longer term, our automation plans call for immediate electronic access by licensing officers to history of similar cases, regulations, policies and precedents, and integration of information concerning foreign availability.

Sincerely,

Paul H. Freedenberg

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U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUITE 2321 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
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May 18, 1987

The Honorable Richard N. Perle
Assistant Secretary for International
Security Policy
Department of Defense
Washington, D.C. 20301-2600

Dear Secretary Perle:

Thank you for your testimony at the April 23, 1987, Committee review of the Impact of National Security Controls on International Technology Transfer. Your statement and opinions regarding this subject in general, and CoCom, in particular, were most informative. We appreciate your assistance in fostering our understanding of the issues. As you know, international cooperation will continue to play a vital role in both economic competitiveness and national security.

Following the April 23 hearing, the Committee received follow-up statements, for the record, from the Department of Commerce and the National Academy of Science. As is customary for this Committee, we are requesting that you review these attached statements and provide your comments to Dr. Kevin Kennedy (202-226-3643) of the Committee staff. Please respond by May 27.

Also, during your testimony, you offered to enumerate a number of mechanisms which would provide the United States the necessary leverage for achieving greater uniformity within CoCom for interpretation and control of our international agreements. The Committee feels these are of great importance and would appreciate your list of recommendations. Additionally, at the hearing, you mentioned we would be shocked at how small the figures (in $ dollars or volume) are for U.S. exports blocked by the DoD under licensing authority. Please provide us with a reliable quantification of this. This information will also be submitted for the record and may be forwarded to Dr. Kennedy of the Committee staff.

Once again, thank you for your excellent testimony. Your assistance in this matter is greatly appreciated.

Sincerely,

MANUEL LUJAN, Jr.
Member of Congress

ROBERT A. ROE
Member of Congress

RL/RAR/pat
Enclosures (2)

APPENDIX C

POLICY

OFFICE OF THE UNDER SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-2000

15 JUN 1987

In reply refer to:
I-10477/87

Ref: ORD 055-34

Honorable Robert A. Roe
Chairman, House Committee on
Science, Space and Technology
U.S. House of Representatives
Suite 2321
Rayburn House Office Building
Washington, D.C. 20515-0001

Dear Mr. Chairman:

Thank you for your letter of May 18, 1987, addressed to Richard Perle. I am pleased that you found his testimony on April 23rd informative, and I am happy to provide further comment and answers to your additional questions.

First, I would like to address several of the issues raised in Paul Freedenberg's letter of May 14, 1987:

- Paul contends that without Commerce's (DoC) ECASS system, which went on-line in March 1985, the Department of Defense (DoD) would be required to manually process all license applications. That is simply not true. DoD has been processing export license cases on the automated Foreign Disclosure Technical Information System (FORDTIS) since March 1982. Furthermore, it was at the insistence of DoD--not DoC--that the President's directive on joint Defense/Commerce review of West-West cases mandated electronic transfer of cases between our two departments. This forced Commerce to pay more attention to accuracy and uniformity in data entry (note: DoD's initial experience revealed the need to return 70 percent of all cases back to DoC for correction). Moreover, it was also DoD which funded the $10,000 effort that enabled DoC's system to accept export cases electronically from DoD.
- Paul also claims that Commerce pioneered the first automated system for tracking export license applications (STELA), which went on-line in October 1986. I would simply observe that Defense's ELISA (Export License Status Advisor) began operating on May 15, 1985 (see enclosure). Exporters do not merely receive a status report as they do from STELA but can also register questions or concerns. Furthermore, ELISA's hours are more extensive: 24 hours a day and 7 days a week of availability, with minimal down time for updating of data bases.
- Paul's hope to replace manual keypunch data entry with optical character readers (OCR) in order to eliminate any human errors is misguided, and such a project would be extremely

expensive. The Defense Department has already carried out a successful demonstration project showing how industry can electronically upload cases via computer to DoC, thus eliminating any requirement for data entry by many of the largest U.S. exporters. Defense offered to provide funding to pursue this initiative in a larger demonstration project, but Commerce opted for the costlier OCR devices and killed the promising DoD-sponsored effort.

- Defense does, of course, recognize the crying need for a comprehensive and integrated approach to export license review that will meld the various independent systems, in order to eliminate costly duplication and enhance the quality of the analysis. In accordance with a National Security Study Directive, efforts are indeed underway to establish an interagency committee (Defense, State, Commerce, Energy and Customs) that will set up a cohesive U.S. Government-wide export license review system. I would highlight the fact that Defense, with its relatively more extensive experience, has already demonstrated proven leadership capability in export licensing automation.

Second, I would like to respond to the May 13, 1987, letter from Mitchel Wallerstein to Dr. Kevin Kennedy of the Committee staff. Mr. Wallerstein defends the National Academy of Sciences' (NAS) publication of the charge that the U.S. Government took 910 days to review a case by stating that this information "was drawn directly and without alteration from the chronology prepared by the company itself." This statement admits that the NAS panel staff accepted without question a very serious charge made by one staff member of one firm. The panel staff made no effort to check the allegations with the Departments of Commerce, Defense, or State. In fact, Defense provided a response to the export applicant within 61 days and later worked with the firm's engineers for 7 months to help configure a system acceptable for export to the Soviet Bloc. That same company sent the Defense licensing officer a letter of appreciation stating that the case history supported its belief that "government and industry can work together to develop mutually acceptable solutions." Thus, the NAS panel's reference was scientifically slipshod and drew exactly the wrong conclusion about the case.

Third, I will elaborate on the matter of U.S. leverage for achieving greater uniformity within COCOM for interpretation and control of our international agreements. In each case when there is evidence of a problem with a company in another member country, the U.S. Government files a formal demarche with the relevant government or governments. However, until recently many of those governments have tended to deny the existence of a problem or simply not respond. A mechanism at our disposal is the provision contained in the 1985 amendments to the Export Administration Act that would permit the imposition of import controls where there is a violation by a company using U.S.-origin goods.

Finally, I would like to point out that of the export license applications for Western destinations sent to DoD for review, only 1.4% have been denied based on our recommendation.

If I can be of any further assistance, do not hesitate to contact me.

Sincerely,

Dr. Stephen D. Bryen
Deputy Under Secretary
Trade Security Policy

Enclosure
As stated

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Elisa II Aims to Help Exporters Avoid Blips in License Applications

By DAVID SILVERBERG
Defense News Staff Writer

WASHINGTON — The Defense Technology Security Administration (DTSA), the Department of Defense agency which oversees the export of militarily sensitive technology, has unveiled a new computer program designed to help exporters through the thicket of export and licensing regulations.

Dubbed Elisa II (for Export License Status Adviser), the new program joins Elisa I, which advised exporters of the status of their export applications.

Elisa II came on line Aug. 1. Elisa I has been in operation since May 15, 1985. Both programs were conceived by Stephen Bryen, deputy undersecretary of defense for technology security policy.

Under the system, exporters may call up Elisa II on their personal computers and get access to a whole range of data.

"Elisa II is many things," explains the computer software program which Bryen demonstrated. It is "an advice line, an information source, and a communication medium between DTSA and U.S. exporters.

"We in DTSA have set two goals for Elisa II," the program continues. "First, we intend to provide exporters with easy-to-understand information that you can use right now to help you fill out export license applications properly." This, DTSA is hoping, will help reduce the number of applications returned due to insufficient information.

"Second, we want to hear from you. So feel free to give us feedback on the Department of Defense's Technology Security Program." Exporters can communicate with DTSA by leaving messages on its electronic bulletin board.

Elisa II operates 24 hours a day and is reachable on a computer-to-computer basis through a modem connection by dialing 202-697-3632.

The program offers a variety of other features to exporters who tap in. These include listings of relevant DTSA programs, listings of DTSA personnel, explanations of DTSA's structure, hints for exporters, publications and articles of interest, summaries of export regulations, new directives and a newsletter.

The total cost of Elisa II, according to Bryen, is $4,708, of which $4,500 paid for the hardware, $200 went for the software and $8 was spent for space on the publicly accessible remote bulletin board system.

In May, DTSA issued a report titled "High-Technology Export License Review and Analysis System for the 1990s." Dubbed Hi-Trac 90, the program aims to "plan, develop and implement a highly automated integrated export licensing system to support the operational needs of DTSA through the mid-1990s."

"DTSA is blazing the automation trail for the entire export control community," boasts one of Elisa II's messages. "Effective use of automation as a tool to make application review not only faster but more thorough has enabled DTSA to cut processing times dramatically and to spot diversions and attempted circumvention of the law, often before it happens."

Existing DTSA computer programs include the Defense Automated Case Review System which provides background information for export license applications between Western countries; the Case Precedence Project Decision Aid, a series of steps for making decisions on the export of sensitive commodities, particularly in the area of computers; and the CoCom Automation of Case Tracking for Member Countries. This is a program being undertaken at the Paris headquarters of the Coordinating Committee for Multilateral Export Controls (CoCom) to track the status of the cases it is handling. CoCom is a 15-nation organization which controls exports to the communist bloc.

DTSA has ambitious plans to expand all these programs in the coming years.

Since 1983, DTSA has been contracting with BK Dynamics for studies on DTSA's information requirements. The latest DTSA effort, according to ELISA II, "involves development of a data base to assess the economic impact of technology transfer."

"These efforts are of great concern to DTSA as elements in the overall assessment of technology transfer worldwide . . ."

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